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CORRELATION OF GASTROENTEROLOGY AND SURGERY

Chairman's Address

SARA M. JORDAN, M.D.
Boston

Harmony and cooperation are basic cornerstones in all fields of human endeavor the purposes of which are the accomplishment of good. This statement is as significant as it is axiomatic. It needs neither emphasis nor elaboration in the world of today, where its antithesis, the effect of disharmony and lack of cooperation, is so clearly demonstrated and, by contrast, so revealing.

Medicine is *par excellence* a field in which the accomplishment of good is the prime and ultimate purpose. For its attainment, harmonious cooperation is as essential as vocational aptitude and training. The inevitable specialization which has resulted from the broadening and development of medical science during the past few decades has had as a natural consequence the development of an absorbing interest in each specialty, which becomes at times so intensive as to be exclusive and narrowing. Pride in the scope and immediate effect of such intensive effort within a special field may become so great that there is failure to recognize unsuccessful end results or need for ancillary treatment.

The fields of gastroenterology and surgery are striking examples of accomplishment within their own limits, but they also exemplify to a high degree the demanding need for harmonious correlation. The successful diagnosis and treatment of diseases of the digestive tract depend on the knowledge and experience of both gastroenterologist and surgeon. Neither has an inclusive monopoly on this field, and best results are obtained only if both work with tolerance and cooperation. Gastroenterology is, to be sure, concerned chiefly with the diagnosis, medical management and follow-up observations, in both the nonsurgical and surgical groups, but the operative procedures and observations, while, by nature, of strictly surgical interest, concern the gastroenterologist as well. The timing in the use of such operations is of the greatest interest to gastroenterologists. Conversely, surgery, while occupied chiefly with the development of correct and effective therapeutic surgical procedures, is naturally deeply concerned that these procedures be used on the right patient for the right reason and must, therefore, have an intense interest in all that involves gastroenterologic diagnosis and treatment. Both gastroenterology and surgery find their justification in end results and modify their procedures either on the radical or the conservative side, according to the final outcome of their respective treatments.

The ideal relationship of gastroenterologists and surgeons is, therefore, one in which there can be reasoned discussion of procedures, cases and results without the barriers of prejudice, suspicion or patronizing attitude of one for the other. A natural desire to avoid unnecessary operation is as much a part of good surgery as it is of good gastroenterology, whereas the call for aid from surgical intervention must come from the gastroenterologist as soon as he is convinced that it is necessary. The observations in both diagnosis and end results are of equal concern to gastroenterologist and surgeon. Each has an opportunity to give of his experience to the other, and in a harmonious relationship only the greatest good for the patient can result.

The diagnosis and treatment of all digestive diseases concerns both gastroenterologist and surgeon, but the conditions in which cooperative observations and treatment are of highest importance are in the differentiation of structural and functional disease, in the diagnosis of cancer of the digestive tract and in the diagnosis and treatment of peptic ulcer, gallbladder disease and inflammatory and ulcerative diseases of small and large intestines.

Differentiation of structural and functional disease is in all parts of the body not without its pitfalls, but the digestive tract, easily accessible as it is to abuse and irritation, harbors, perhaps to a greater degree than any other part of the body, peculiar perplexities for the diagnostician. In the past, many normal gallbladders and appendixes have been removed and surgeons perhaps temporarily comforted by pathologic reports of chronic cholecystitis and appendicitis, only to have unhappy patients return after a few months with recurrence of the preoperative symptoms. To be sure, careful exploration had shown no evidence of other structural disease, but there had also all too often been no careful preoperative exploration by a gastroenterologist. When the surgeon failed on exploration to find other organic disease and to provide relief by the removal of appendix or gallbladder, patients were classed as psychoneurotic or hypochondriac, whereas if they had been surveyed preoperatively by both gastroenterologist and surgeon, there would have been neither operation nor disappointed patients.

Abdominal symptoms, while at times so distinctive and typical that no survey or period of observation is necessary to make a diagnosis, often require the most scrutinizing survey, not only to determine the chief and underlying cause of symptoms but also to detect other secondary conditions which contribute to the symptomatic picture and which, if undetected,

From the Department of Gastroenterology, The Lahey Clinic, Boston.
Read before the Section on Gastroenterology and Proctology at the Ninety-Seventh Annual Session of the American Medical Association, Chicago, June 24, 1948.

will continue to cause symptoms after the chief cause has been treated. For example, no disease of the digestive tract, whether organic or functional, when associated with gallstones can be satisfactorily treated until the gallbladder has been removed. Conversely, no cholecystectomy will produce entirely satisfactory results if an associated irritable colon and hypermotility of the small intestine is not treated immediately postoperatively. In the interest of time saving and effectiveness of treatment, therefore, a complete survey is indispensable in all patients who have abdominal symptoms. Errors in diagnosis and treatment are too often due to failure to carry out a complete examination previous to treatment.

Functional disorders which are present in conjunction with organic disease and organic disease lurking under cover of obvious functional disorders are too often found in a complete diagnostic survey to allow of exclusively concentrated attention on one typical group of symptoms. In this regard, two points are worthy of special mention. Reference was made previously to the frequent occurrence of irritability of the colon and hypermotility of the small intestine in conjunction with gallstones. A policy proved especially useful is that of classifying patients with gallstones into two groups: first, those who have chronic indigestion, characterized by gas distress and distention, sometimes with nausea and vomiting and with or without typical gallbladder colic, and, second, those who have typical gallbladder colic attacks, but no chronic indigestion between attacks. The first group has inevitably a functional digestive disorder which is not corrected by cholecystectomy alone, but which requires both cholecystectomy and postoperative medical treatment of the digestive disorder. The second group recovers completely from cholecystectomy alone.

A second point of relevant interest concerns the diagnosis of gallbladder disease, in the presence of both acute peptic ulcer and severe functional disorders in which there is pronounced pylorospasm, probably with associated spasm in the ampulla of Vater and cystic duct. In such cases the reaction to the Graham-Cole test may appear to be positive when the test is made in the presence of these acute conditions, but a week or ten days after the acute condition has been relieved by medical management a normal response to the Graham-Cole test is obtained, proving that the gallbladder had a functional but not a structural disorder.

Diagnostic problems with peptic ulcer are much commoner than might be expected from the fact that the history of uncomplicated ulcer has such a standard pattern. The occurrence of concomitant disease, as well as of complications of the disease itself, changes the clinical picture, sometimes to a decided degree. Joint observation and experience of both gastroenterologist and surgeon are usually required for the best therapeutic outcome.

Indications for surgical intervention in ulcer vary with the individual surgeon and gastroenterologist, but wherever there is harmonious cooperation the appraisal of good and bad end results of both medical and surgical treatment has resulted in the tempering—by humility—of initial enthusiasm for one or the other treatment and in the eager search for help by one from the other. The surgeon is willing to have only the intractable duodenal or jejunal ulcer or the gastric ulcer suspected of malignant disease referred to his care, and the gastroenterologist eagerly seeks his aid when this becomes necessary.

The question of intractability is indeed a relative one. The tendency of this disease to recur after any form of treatment makes it necessary that the newer radical procedures be used only when indicated by absolute failure of conservative measures. Particularly, is it important that conservative measures be given a truly adequate trial, and without careful investigation into the adequacy of such measures an immature appraisal often leads to unnecessary operation. On the other hand, penetration of a truly recalcitrant ulcer into the essentially important region of the common duct with its plastering effect on that vital area makes the inevitable surgical procedure extremely difficult and sometimes impossible of ideal execution. Ulcers of the second portion of the duodenum should, therefore, probably have an earlier diagnosis of intractability than those in areas where less vital structures may be involved. The criterion of intractability is, therefore, dependent on careful analysis of previous treatment and the type and location of the ulcer. Much has been said in discussions of peptic ulcer about the intractable patient versus the intractable ulcer. It cannot be too often emphasized that unless such a patient is so impressed by the gravity of a surgical procedure that he will postoperatively become a tractable patient his intractability will operate with as much disadvantage to him postoperatively as it did during his medical regimen. In other words, surgical intervention alone has proved to be no panacea for the intractable patient.

Postoperative care in ulcer often challenges the best efforts of the gastroenterologist and surgeon. Patients about to have gastric resection should be freed from any preoperative illusion that resection gives them emancipation from all medical restrictions. The incidence of jejunal ulcer after resection is sufficiently high to make it necessary that medical care be continued postoperatively and establishes the fact that the operation is an added therapeutic procedure, but not a substitution.

Postoperative complications after resection for ulcer often tax the clinical judgment of both gastroenterologist and surgeon. As an illustration of this fact, there is the patient who has had gastric resection and who returns with new complaints of abdominal distress. The question arises: has this patient a jejunal ulcer, a postoperative dumping syndrome, a functional disorder of the colon or a new organic lesion unrelated to his previous ulcer and resection? Meticulous observation and investigation may be required to differentiate. Pain to the left of the umbilicus, tenderness with fluoroscopic examination over the stoma and a residual fleck of barium sulfate at the site of tenderness indicate a jejunal ulcer, and this or any other new organic lesion should be found with careful study. The dumping syndrome or a functional disorder of the colon is suspected if neither jejunal ulcer nor new organic lesion is found, and the diagnostic study, especially the history and roentgenologic observations, indicates which of these conditions exists. Not infrequently, a functional colonic disorder is induced by ulcer therapy, particularly if the silicates and magnesium have been used.

Obstruction is a complication of ulcer which, while often thought to be definitely an indication for surgical intervention, is equally often observed to be a transient condition due to edema and inflammation and not to cicatricial stenosis. A period of observation with alternate feeding and drainage, known at the Lahey Clinic as the Wilkinson drainage method, because first devised by Dr. S. Allen Wilkinson, is usually an effective

method of differentiation between transient and permanent obstruction and helps in the assignment of such cases to medical or surgical treatment.

Hemorrhage in peptic ulcer is a complication which, as time and ulcer experience go on, often has been found to test the clinical acumen and judgment of both gastroenterologist and surgeon. The diagnosis of ulcer in gastrointestinal bleeding is often difficult to establish, even with surgical exploration. One point of interest worth noting is that some of these apparently obscure bleeding ulcers are located in the second portion of the duodenum, and their presence is indicated roentgenologically by a narrowing of that area with a paradoxic dilatation distal to the ulcer, a sign first called to our attention at the Lahey Clinic by Dr. Wilkinson, of our staff.

Ulcer bleeders have a deplorable tendency to bleed after all forms of treatment, medical and surgical. Patients with such conditions, with histories of multiple hemorrhages, must receive special and intensive postoperative treatment after resection, for statistics are gradually accumulating which indicate a considerable percentage of hemorrhage following even very high resections. The whole problem of ulcer hemorrhage requires cooperative study by surgeon and gastroenterologist.

Newer surgical and medical procedures for ulcer should have the consideration and appraisal of both gastroenterologist and surgeon. For example, the two newer methods of treatment—the surgical procedure of vagotomy and the hormonal approach to treatment with enterogastrone and other hormonal extracts—require analytic appraisal of results before general adoption is recommended. The American Gastroenterological Association, through its Committee for the Study of Peptic Ulcer, is at present engaged in such an appraisal on a national level and intends to obtain a final opinion of their value as indicated by end results.

Such end results can, of course, be truly appraised only with time, the determining factor in all ulcer statistics, but already enough time has elapsed in the case of vagotomy results to indicate the trend of results and the presence or absence of untoward side effects. The cooperation of surgeon and gastroenterologist is essential to effect such an appraisal, the result of which will be either the promotion or the condemnation of this procedure. While less important from the point of view of life and safety of the patient, the hormonal approach to treatment also requires current appraisal, so that if this proves illusory, opportunity for other forms of treatment in the individual case will not be sacrificed.

Of equal importance with peptic ulcer, and it may not be amiss to say perhaps in the same category, are the inflammatory and ulcerative diseases of the small and large intestines, especially the so-called regional enteritis and nonspecific ulcerative colitis. When attention to the inflammatory and stenosing disease of the small intestine was first called by Burrill Crohn about fifteen years ago, it was thought that this was a specific disease of the terminal ileum. In fact, the name given it was terminal ileitis. Surgical and gastroenterologic observations since that time have shown that this disease process may involve not only the terminal ileum, but any part of the small intestine, either in one part or in patches, with skip areas, and, furthermore, that it may also affect the cecum and ascending colon. In fact, not a few gastroenterologists have expressed the opinion that it may well be essentially the same disease as nonspecific ulcerative colitis. Both diseases share with peptic ulcer the characteristic of tendency to recurrence.

The problem of when surgical treatment should replace medical treatment in these two diseases can be answered only by cooperative observations of both surgeon and gastroenterologist. The possibilities of improvement with continued medical treatment, together with the desire to avoid loss of small intestine or colon and the disadvantages of ileostomy, have to be weighed against the possible spread and further involvement of small intestine and, in both diseases, a possible fatal outcome. The interests of each patient require the greatest degree of cooperative thought and action of both gastroenterologist and surgeon.

The diagnosis of gallbladder disease has undergone varying criteria during the last decade—entirely because of correlation of gastroenterologic and surgical experience. With the exception of the rare polyp, cancer of the gallbladder and empyema without stones, cholelithiasis is the one diagnosis which has been proved an indication for operation. The universally accepted and indispensable Graham-Cole test is interpreted as revealing the presence of stones only if it completely fails to visualize the gallbladder in the absence of an acute condition elsewhere in the abdomen and if it actually shows the stones by consistently appearing radiolucent or opaque shadows. Faint filling, delayed emptying and all the other variations of visualization which were at first thought to be significant of organic disease have been demonstrated by the cooperative observations of surgeon and gastroenterologist to be chimeras, due undoubtedly to transient disturbances in function and not requiring surgical treatment.

The diagnosis of cancer of the digestive tract, in spite of concerted effort of surgeon and gastroenterologist, remains unsatisfactory because it is too often too late. Special effort is now being directed toward that most insidious and most frequently seen form, namely, cancer of the stomach. In about 20 per cent of cases of this disease the lesion first appears in the form of an ulcer, and in these 20 per cent, about one tenth of the lesions have the appearance of a benign ulcer when first seen and must be differentiated from the truly benign ulcer which may be healed and remain healed.

It therefore becomes a matter of vital importance to distinguish between the benign and the malignant or potentially malignant ulcer. Complete healing, as demonstrated by complete disappearance of the crater, gastroscopically and radiologically, and a return of unimpaired flexibility of the wall of the stomach, is the decisive point on which the benign character of the lesion may be judged. But, in addition, the correlated surgical and gastroenterologic experience of the past twenty years has demonstrated that that healing must not be disturbed by recurrence, if this benign character is to be trusted.

In other words, recurrent ulcer must be suspected of harboring cell changes which may transform it to a malignant lesion. This fact indicates the absolute necessity for the most careful follow-up of all gastric ulcers and for resection of all which remain incompletely healed or which recur. This is only one instance of cancer of the digestive tract in which the cooperative efforts of gastroenterologist and surgeon may advance early detection.

The subject, correlation of gastroenterology and surgery, could be elaborated far beyond the points discussed in this paper. But perhaps this discussion may

suggest the extent of mutual aid and satisfaction which can be derived from reciprocal relations of these two branches of medicine under ideal conditions of trust and understanding. In conclusion and at the risk of being repetitious, I would exhort the gastroenterologist to follow up his patient through the operating room to his immediate and protracted postoperative life and to keep his surgical colleague well informed on his observations, for the well-being of that patient is the objective of their efforts and excellence of end results is the goal of both.

LONGEVITY IN RHEUMATIC FEVER

Based on the Experience of 1,042 Children Observed Over a Period of Thirty Years

MAY G. WILSON, M.D.
and
ROSE LUBSCHEZ, A.M.
New York

The relative importance of rheumatic fever as a cause of death has been stressed in recent years. It has been estimated that for each death of a person under 20 years of age due to the combined causes of pertussis, diphtheria and poliomyelitis there were 50 deaths due to rheumatic disease of the heart.[1] The United States vital statistics reports for 1944 list deaths from rheumatic fever as 0.1 per 100,000 population and the death rate for rheumatic disease of the heart as 20.4 per 100,000 population, in comparison with the crude death rate of 1,040 per 100,000 for all causes. The Metropolitan Life Insurance Company reported deaths in school children due to rheumatic fever, including rheumatic disease of the heart, as 5 to 6 per 100,000 among industrial policy holders.[2] These mortality statistics emphasize the public health aspects of rheumatic fever, but have limited prognostic value.

Of greater concern to the physician is the determination of longevity in rheumatic fever, i.e., the prospects for an affected child to survive childhood and puberty and to reach adulthood. We have attempted to answer these questions from a consideration of the mortality experience in a group of 1,042 children who have been under our medical supervision during the years 1916-1947. The maximum period of observation was therefore about thirty years for those who came under observation in 1916, and the period of observation was progressively shorter for those whose first observation occurred in later years. Obviously, this time is insufficient for observing the complete life span in every patient, but it is of sufficient length to provide information as to the relative chances of surviving during the first four decades of life.

The conventional method for estimating the chance for survival in specific population groups is by the construction of a life table. The average mortality rates within a stated period following onset are determined (i.e., the ratio of deaths to person years of life experience). From the mortality rates, the risk of death during the specified interval may be determined, and from this figure the chance of survival from the beginning to the end of the interval may be obtained. This method, therefore, permits data as to the chances of survival from onset to any stated period to be accumulated. If these data can be obtained for the entire life span, the average life expectancy, i.e., the average number of years after onset, may be computed. Since our group was under observation for a maximum of thirty years, only a partial life table may be derived, and only the chance of survival to the maximum age in the life table may be ascertained.

The usefulness of the life table technic has been demonstrated by life insurance companies and public health services. Recently, its applicability to prognosis following operative procedures was demonstrated.[3] The methods for constructing abridged life tables have been simplified and are readily applicable to studies of chronic disease. In our studies the abridged life table technic described by Reed and Merrell has been used.[4]

For this study, the records of 1,042 rheumatic patients were reviewed. Eleven per cent of these patients were lost from observation at various points in the follow-up period, but 89 per cent were observed until death or the end of the study (July 1, 1947).

DESCRIPTION OF THE DATA

Before considering the mortality experience of these patients, it is necessary to describe the character of the sample.

Coming under observation from 1916 to 1922 were children referred from the Cornell Clinic. From 1922 to 1932, patients entered the Cardiac Clinic by referral from schools and the New York Nursery and Childs Hospital Children's Clinic and hospital wards. After 1932, rheumatic patients were referred to the Cardiac Clinic from the New York Hospital Children's Clinic and wards. In addition, rheumatic siblings of patients already attending the Cardiac Clinic were brought under observation. Rheumatic patients in whom the onset was presumably after puberty are not included in this series.

All of these patients were under close medical supervision during the entire period of observation, which included adolescence and adult life for those who reached it. About two thirds of the children were from families of the social and economic level usually encountered in a clinic in the city of New York. The remainder were from families of a somewhat higher economic level. The economic level has been higher for the majority of adolescent and adult patients during the past fifteen years.

The diagnostic criteria used in the study conformed to the "Requirements of Cardiac Clinics" of the New York Heart Association. A more detailed description of the medical follow-up of this group has been published.[5]

The age at last observation or at death and the sex distribution of the 1,042 patients is presented in table 1. It will be noted that 257 (25 per cent) were 1 to 15 years of age and that 785 (75 per cent) had reached the ages of 16 to 42 years.

The number of deaths by causes and age groups in which they occurred are summarized in table 2. Within the period of observation, 226 patients died. So far, two thirds of the deaths have occurred in the 1 to 15 year age group. Of the 226 deaths, 75.7 per cent were ascribed to rheumatic disease of the heart and 10.2 per cent to subacute bacterial endocarditis. The incidence of subacute bacterial endocarditis in the entire group of patients was 2.2 per cent. In 37 per

This study was aided by a grant from The Commonwealth Fund.
Dr. Margaret Merrell gave constructive criticism and suggestions.
From the New York Hospital and the Department of Pediatrics, Cornell University Medical College.
Because of lack of space this article has been abbreviated in The JOURNAL. The complete paper will be found in the authors' reprints, which the authors will be pleased to send on request.

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2. Health Problems of School Age Children, Statist. Bull. Metrop. Life Insur. Co., **28**: 4, 1947.
3. Berkson, J.: The Construction of Life Tables and the Use of the Method for Calculating Survival After Operation, Proc. Staff Meet., Mayo Clin. **9**: 380-385, 1934.
4. Reed, L. J., and Merrell, M.: A Short Method for Constructing an Abridged Life Table, Am. J. Hyg. **30**: 33-62, 1939.
5. Wilson, M. G.: Rheumatic Fever, New York, The Commonwealth Fund, 1940.

cent of the deaths, verification of the cause of death was obtained by postmortem examination. In most instances, death was due to active rheumatic carditis.

The mean age at onset of rheumatic fever was 6.5 years. The average length of observation in this study was 14.8 years. In the various analyses which were made, no significant sex difference was observed.

The incidence of the various rheumatic manifestations experienced during the course of the disease is presented

TABLE 1.—*Distribution of Patients by Sex and Age at Last Observation*

Age (Yr.)	Sex		Patients	
	Female	Male	Number	Percentage
1-15	130	127	257	25
16-19	103	88	191	18
20-29	224	199	423	41
30-42	112	59	171	16
Total 1-42	569	473	1,042	

in table 3. In 7 per cent of the group of 1,042 patients, active carditis occurred as the only manifestation during the observed course, 25 per cent experienced one or more attacks of chorea, 58 per cent had polyarthritis with or without chorea and in 10 per cent there were recurrent attacks of joint pains. In 45 per cent, active carditis occurred in association with other manifestations. A comparison of the various manifestations which characterized the course of the disease by age at last observation reveals that the incidence of active carditis in children who survive puberty is significantly lower in each age group. This is consistent with the natural history of the disease, since death during this period is due to active carditis. Two thirds of the deaths in our series occurred before puberty.

Cardiac involvement was demonstrable in all of the patients, although active carditis was subclinical in about one half. The cardiac diagnosis for each age group at last observation or death is summarized in table 4. It will be noted that there were multiple valvular lesions in less than half (41 per cent) of the patients between the ages of 20 and 29 and in more than two thirds (71 per cent) of the patients between the ages of 30 and 42. There was moderate or decided cardiac enlargement in about one half of the patients in both of these age groups. It must be emphasized that in about one third of the patients the auscultatory signs of valvular lesions regressed during the period of observation. Auricular fibrillation occurred in 38 patients (4 per cent). Less than half of the patients with auricular fibrillation have survived. In 4 living patients, auricular fibrillation has been present for an average of fifteen years.

Of particular importance is the observation that about 90 per cent of the patients from 20 to 42 years of age were able to carry on their normal activity without circulatory symptoms. One hundred and sixty-seven men served in the armed forces, and 162 women experienced a total of 288 pregnancies.[6] From these figures it is apparent that the morbidity due to rheumatic disease of the heart is low after puberty. This is consistent with a previous observation that the average annual rate of recurrence after puberty is also low (3.7 per cent).[7]

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7. Wilson, M. G., and Lubschez, R.: Recurrence Rates in Rheumatic Fever, J. A. M. A. **126**: 477-480 (Oct. 21) 1944.

LONGEVITY IN RELATION TO DURATION OF DISEASE

To determine longevity in rheumatic fever, mortality rates were calculated for 1,042 patients representing 15,336.75 person years of life experience. From these rates the probability of survival could be ascertained in relation to the years since onset of the disease and the age of the patient (fig. 1).

In table 5 the mortality rates for the 1,042 patients are presented for specific intervals in the years following the onset of the disease (columns 7 and 8). It is apparent that the highest mortality occurs within the first year after onset. The death rates for one to thirty years after onset are remarkably constant.

Computation of the risk of death during any specified time interval reveals that there are 4 chances in 100 of death occurring within one year after onset of the disease (column 9). The risk of death from the first to the fifth year after onset is 5 chances in 100 and increases to 8 chances in 100 during the fifth to the tenth year after onset. In comparing these risks it must be recognized that the probability of death during an interval is dependent on the length of that interval. Therefore, the chance of death in the first year after onset is about three times as great as in most of the subsequent single years.

There is a slight but significant increase in the risk of death from the fifth to the tenth year after onset in comparison with the previous period. Analysis of this experience by age reveals that in a large proportion of the cases, this is the age of puberty (table 7). It is apparent that the age factor is more important than the time after onset. After the period five to ten years after onset, the rates are remarkably constant. Accumulation of the figures for the risks of death, to give the survival rate from onset to any specified number of subsequent years (table 5, column 10), it may be observed that the fifteen year survival rate is 80 per cent, the twenty year survival rate is 75 per cent and the thirty year survival rate is 66 per cent.

It is interesting to note that the median duration of life (the number of years which half of the children would survive) is evidently considerably greater than

TABLE 2.—*Death by Age and Cause*

Age, Yr.	Number of Patients	Total Deaths	Number of Deaths						
			Cardiac Causes		Noncardiac Causes				
			Rheumatic Heart Disease	Bacterial Endocarditis	Tuberculosis	Infectious Diseases	Neoplasm	Accident	Undetermined
1-15	257	138	116	9	2	7	1	3	..
16-19	191	41	29	5	1	1	1	3	1
20-29	423	37	19	8	2	2	..	5	1
30-42	171	10	7	1	..	..	..	2	..
1-42	1,042	226	171	23	5	10	2	13	2

thirty years. If the constancy of the rates after puberty should persist for three additional five year periods after thirty years, the median would be about forty-five years after onset. This extrapolation beyond the computed figures appears to be a reasonable assumption.

From these observations, it is apparent that there is a decided difference between our figures and those given by Cohn and Lingg.[8] In their study the mean duration of life from onset to death was about thirteen years.

8. Cohn, A. E., and Lingg, C.: The Natural History of Rheumatic Cardiac Disease, J. A. M. A. **121**: 1-8 (Jan. 2) 1943.

They based their figures on an analysis of deaths alone, ignoring the experience of the survivors. This procedure always results in an underestimation of life expectancy. The extent of the underestimation varies inversely with the length of follow-up. This is the severest type of sampling bias, since it is only the persons who die earliest, i.e., the poorest risks, who are used to determine the prognosis figures.

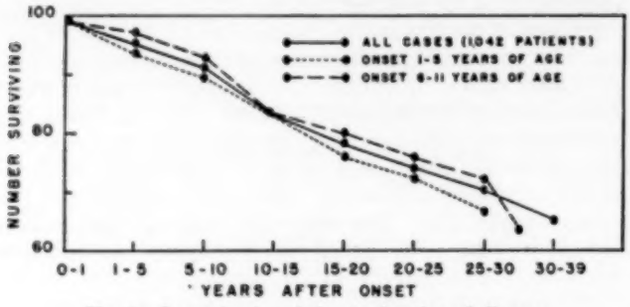

Fig. 1.—Longevity in relation to duration of disease.

It seemed pertinent to determine whether the age at onset is related to the prognosis. Tables were constructed for children with onset from 1 to 5 years and 6 to 11 years of age. Comparison of the mortality rates in the two groups (table 6, columns 7 and 8) revealed that there were no unusual differences according to early or later onset of the disease, demonstrating that the age at onset is not an influential factor.

The over-all comparability of the rates is indicated by the similarity of the survivorship values (table 6, column 10). However, certain differences are noteworthy. There is a higher first year mortality for children who are 1 to 5 years of age at onset, in comparison with those whose onset occurred between the ages of 6 and 11 years. The increased risk of death during the sixth to the tenth year after onset persists to the fifteenth year for those with onset between 1 and 5 years of age and appears earlier after onset among those with onset between 6 and 11 years of age. This again indicates the increased risk at puberty.

LONGEVITY IN RELATION TO AGE

Since it is important to estimate the prognosis of the disease in terms of the age of the patient, age-specific mortality rates were computed for the entire sample (fig. 2). In table 7 (column 9) it may be noted that a mortality rate twice as high as the over-all mortality rate was obtained for children between the ages of 1 and 4 years (33.2 per thousand). A slightly increased rate of 18.2 per thousand was observed for children between the ages of 10 and 14 years, in comparison with the over-all death rate of 14.7 per thousand.

Figures for the risk of death during a specified age interval were computed from these rates and revealed (table 7, column 11) that the probability of death during the period from 1 to 4 years is 11 chances in 100. For children reaching age 5, 7 out of 100 die before reaching age 10. In the group from age 10 to 15, 9 out of 100 who reached age 10 will die, and, in the age group 15 to 20 years, 7 out of 100 die. Of 100 children who reach age 20, 5 die before 25 years, and the risks are the same in the period from 25 to 30 years.

An accumulated survivorship curve may be derived from these risks. Its interpretation is not as clearcut as the survivorship values calculated on the basis of years since onset, which have been considered previously. In the present table, children are entered at various ages, depending on the age at which onset occurred. In spite of this heterogeneity of material, the survivorship values give a prognosis for children whose onset of rheumatic fever occurred subsequent to age 1. Seventy-five per cent of the children survive from age 1 to age 15 and 55 per cent from age 1 to age 40. Of those who survive to the age of 15, 72 per cent survive to age 40.

It seems important to determine whether our sample was representative of the general population in New York in other respects than rheumatic disease of the heart.

The mortality rates from all causes in New York for the years 1919 to 1920 (table 7, column 13),[9] the median year of the sample, were applied to the person years of our sample to obtain the expected number of deaths in our sample (table 7, column 14). It was observed that about twice as many deaths were expected as the total number of deaths from noncardiac causes observed in our sample. Thus, either the sample was not representative of the general population or the careful medical supervision given these patients may have been an influential factor in reducing the number of deaths due to noncardiac causes.

In the past few decades there has been a notable improvement in the general care of children. The mortality rates for children born between 1900 to 1919 and 1920 to 1939 were compared to determine whether there was any significant difference which might be attributed to the improved care of children in recent years.

In table 8 the age specific mortality rates for children born before and after 1919 (columns 9 and 10) are tabulated. Except for three specific age groups, i.e., 1 to 4, 10 to 14 and 15 to 19, there was no significant trend in the mortality rates for the periods before and after 1919. The difference in the age group 1 to 4 years (i.e., 16.3 before and 37.5 after 1919) is associated with such small numbers that it cannot be interpreted. One more death would have equalized the rates. For children born before 1919, the death rates at ages 10 to 14 and 15 to 19 were 26.4 and 22.2 per thousand, respectively, in contrast with 11.9 and 8.2 per thousand for children born after 1919.

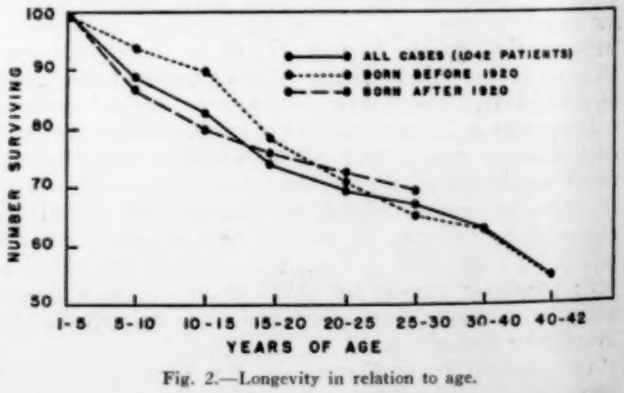

Fig. 2.—Longevity in relation to age.

The differences in the age group 10 to 19 years may in part be attributed to the sources from which the two samples were drawn over the thirty year period of observation.

From 1916 to 1921, only ambulatory children entered from the clinic. Between 1923 and 1930, younger children entered the study from the hospital wards. From 1932 to 1947, sick chil-

9. Summary of Vital Statistics, 1898-1946, Department of Health (New York City), Bureau of Records and Statistics, Statistical Division, 1947.

dren of all ages were referred to the clinic from the hospital wards. Since the ward referrals represent the more severely affected group in our sample and ward referrals did not begin until after 1922, this is reflected in the higher mortality rates in the 10 to 19 age group born before 1920.

Since the differences in the mortality rates for patients born before and after 1920 may be accounted for by differences in the sample, there is no evidence that improved care and nutrition during the past twenty years affected the mortality rate in rheumatic fever.

COMMENT

These observations have the advantage that the medical supervision has been uniform and the patients have been under close observation throughout the entire course of the study.

The sample may be considered representative for rheumatic children living in New York who attend clinics or are admitted to hospitals. The clinical course of the disease experienced by these patients comprised all patterns of rheumatic fever having its onset in childhood.

Interpretation of the mortality rates in rheumatic fever must take into account possible selective factors. Obviously, the mortality rates would be higher if all the patients were drawn from the hospital wards than if selection were limited to clinic attendance. Selective factors may have contributed to the higher death rates in the 1 to 4 year age period in this study because the majority of the children were admitted to the hospital and succumbed to their first severe attack of active carditis. Affected children of this same age group suffering minor manifestations of the disease are small in number and usually are not recognized until a major recurrent attack of rheumatic fever brings them to a clinic for examination.

It must also be borne in mind that analysis of data obtained from a children's clinic cannot be compared with studies derived solely from adult cardiac clinics. In the latter, only historical information is available for the childhood course of the disease. Furthermore, children who did not survive puberty are not represented. There are also likely to be excluded adult survivors who do not attend a clinic because they are not troubled by recurrent attacks of rheumatic fever or circulatory symptoms. This is particularly important, since it has been shown that the morbidity for the 20 to 30 year age period is low.

This study is limited to a consideration of the longevity of affected children for the first four decades of life. The exclusion of patients presumably with onset after puberty is not pertinent.

The complete life expectancy in rheumatic fever has never been presented. To give a complete estimate of the average future lifetime of rheumatic patients, it would be necessary to follow all of a group to death or to use data representative of all ages.

It is possible, however, to determine survival after onset up to the most advanced age observed. In doing this, it is essential to take into account every person who enters the study for as long a time as he is present. The present study is the first analysis of survivorship in rheumatic fever which takes these factors into account.

It must be borne in mind that during childhood death is due to active carditis. The severity of any one attack and the number of recurrent attacks with resultant cardiac damage influence the ultimate prognosis in each patient.

The low mortality and morbidity rates after puberty among the survivors should be emphasized. Although there was demonstrable cardiac involvement in all of the patients, 90 per cent were able to carry out their normal activity at last observation.

It is of interest that the improvement in general care and nutrition in the past few decades did not appear to be reflected in decreased mortality rates for the children born after 1920.

SUMMARY

The records of 1,042 children who were under observation over a thirty year period of observation, from 1916 to 1947, are reviewed. Eighty-nine per cent of the patients were seen at death or at the end of the study.

The mean age at onset was 6.5 years. The average length of observation was fourteen and eight-tenths years.

At last observation, 25 per cent (257) were between the ages of 1 and 15 years and 75 per cent (785) were from 16 to 42 years of age.

Among 226 deaths, 75.7 per cent were due to rheumatic disease of the heart and 10.2 per cent to subacute bacterial endocarditis. The incidence of subacute bacterial endocarditis in this series of 1,042 patients was 2.2 per cent.

The clinical course of the disease was characterized by active carditis alone in 7 per cent. In 25 per cent there were one or more attacks of chorea; in 58 per cent polyarthritis occurred with or without chorea, and 10 per cent had joint pains. Active carditis was clinically recognizable in only 45 per cent of these patients.

Cardiac involvement was demonstrable in every patient at last observation. Multiple valvular lesions and moderate or decided enlargement of the heart was observed in about one half of the patients. Auricular fibrillation occurred in 4 per cent of the patients.

There was regression of auscultatory signs of valvular lesions in one third of the group.

Ninety per cent of the patients who were 21 to 42 years of age at last observation were able to carry on their normal activity without circulatory symptoms. One hundred and sixty-seven men served in the armed forces, and 162 women experienced a total of 288 pregnancies.

The mortality experience among 1,042 rheumatic patients representing 15,336.75 person years of life experience is presented.

Analysis revealed no significant sex difference in the age-specific mortality rates.

The mortality rates indicate that there is an increased risk at puberty irrespective of age at onset of the disease. The highest mortality rate occurred within one year of onset.

The over-all death rate was 14.7 per thousand per year.

The highest death rates occurred between the ages of 1 and 4 years (33.2 per thousand) and 10 to 14 years (16.3 per thousand).

A comparison of age-specific mortality rates for children born before and after 1919 showed no difference attributable to improvement in general care and nutrition during the past twenty years.

The longevity in rheumatic fever for the first four decades of life is presented.

An affected child has 4 chances out of 5 to survive fifteen years after the onset of the disease, 3 chances

out of 4 to survive twenty years after onset and 2 chances out of 3 to survive thirty years after onset.

The median duration of life for rheumatic children is greater than thirty years after onset.

An affected child has 4 out of 5 chances to survive childhood (to the age of 10 years), 3 chances out of 4 to survive puberty and 19 chances out of 20 to survive early adult life.

The over-all chance to survive to the age of 40 years is 1 out of 2.

525 East Sixty-Eighth Street.

APICAL PULMONARY CARCINOMA AND TUBERCULOSIS

The Value of Sputum Cell Study in the Differential Diagnosis

MARTIN BERGMANN, M.D.
BURTON A. SHATZ, M.D.
and
I. JEROME FLANCE, M.D.
St. Louis

The differentiation of apical pulmonary tuberculosis from apical pulmonary carcinoma on clinical and radiologic grounds is often difficult. Since as high as 52 per cent of all carcinomas of the lung occur in the upper lobes,[1] this differentiation is a perplexing and not infrequently occurring problem. The location of these lesions frequently prevents the bronchoscopist from obtaining a biopsy specimen or even visualizing the pathologic process.[2] Since tuberculosis is usually treated medically, whereas carcinoma demands early radical surgical treatment, an accurate diagnosis is of extreme importance. In 1943 a series of 164 cases of carcinoma of the lung reported by Overholt [3] revealed that 63 per cent were misdiagnosed by the first physician consulted. In this group of pulmonary carcinomas, tuberculosis was the incorrect diagnosis in 38 per cent. In a report of the mistaken diagnosis of tuberculosis as encountered in a sanatorium by Kaplan and Levin,[4] carcinoma of the lung accounted for 18 per cent of the misinterpreted pulmonary lesions. These figures indicate the frequency with which this problem arises. Therefore, any additional procedure which helps to reduce the incidence of this not uncommon diagnostic error would be of the utmost value.

Exploratory thoracotomy, a rather drastic procedure for obtaining a biopsy specimen, needle aspiration, with its dangers and inadequacies,[5] and bronchoscopy, with its difficulty in visualizing the upper lobes, have heretofore been the only methods of procuring tissue for diagnostic study. The work of Dudgeon and Wrigley [6] and others [7] has established the examination of sputum for tumor cells as a procedure which will yield a positive diagnosis in from 60 to 88 per cent of carcinomas of the lung. However, the place of this diagnostic aid in the specific problem of the differentiation of apical tuberculosis from apical cancer has not been duly emphasized.

In the past several months we have examined the sputum of 158 patients, employing the technic described by Wandall.[7c] Three cases in this series were of special interest in that a diagnosis of carcinoma was made by sputum examination, at a time when the clinical diagnosis was tuberculosis or wavered between tuberculosis and carcinoma.

REPORT OF CASES

CASE 1.—A 60 year old white salesman had been under a physician's observation since the death of his two sisters from tuberculosis four years previous to his admission to the hospital.

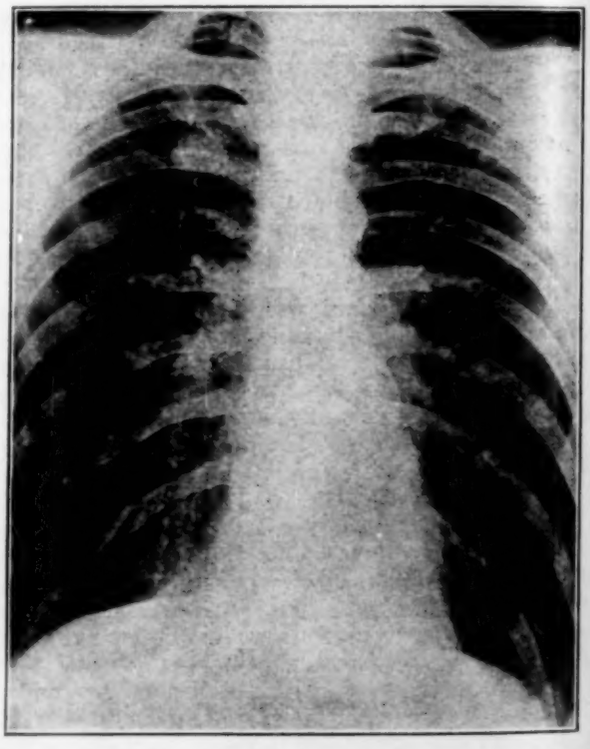

Fig. 1 (case 1).—Roentgenogram of the chest one year before diagnosis of carcinoma was made, showing infiltrate in the upper lobe of the right lung with suggestion of cavitation.

During this time he had had a chronic cough, productive of small amounts of grayish white sputum. From a roentgenogram of the chest taken one year prior to admission, diagnosis of an active tuberculous process was made. However, the patient continued to feel well until three months before admission, when increasing exertional dyspnea, increased cough and weakness developed. He lost 6 pounds (3 Kg.) during this period. He was finally admitted to the hospital after an episode of severe pain in the right side of the chest.

Aided by the David May-Florence G. May Fund.
From the Laboratory of The Jewish Hospital of St. Louis.

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Physical Examination.—The patient's temperature was 98.6 F. and pulse rate 90; respirations were 20. He was undernourished. The noteworthy observations were limited to the chest. Expansion was the same on both sides. Over the upper lobe of the right lung, anteriorly, tactile fremitus was slightly impaired, percussion note was dull, breath sounds were diminished and occasional expiratory moist rales were heard.

Laboratory Observations.—The red blood cell count was 5,400,000, hemoglobin 104 per cent, and white blood cell count 15,400, with a slight shift to the left in the differential count. Results of sputum examinations for acid-fast bacilli were negative. The remainder of the laboratory observations were within normal limits.

A review of the roentgenograms obtained from the patient's physician (taken three years before admission) revealed the presence of increased peribronchial markings, extending from the hilus to both apexes. One year before admission a 3 by 2 cm. subapical infiltrate was seen in the upper lobe of the right lung. This contained a small area of rarefaction, suggesting early cavitation (fig. 1). A roentgenogram of the chest taken on admission showed a decided increase in size of the area of infiltration. A bronchoscopic examination was made the

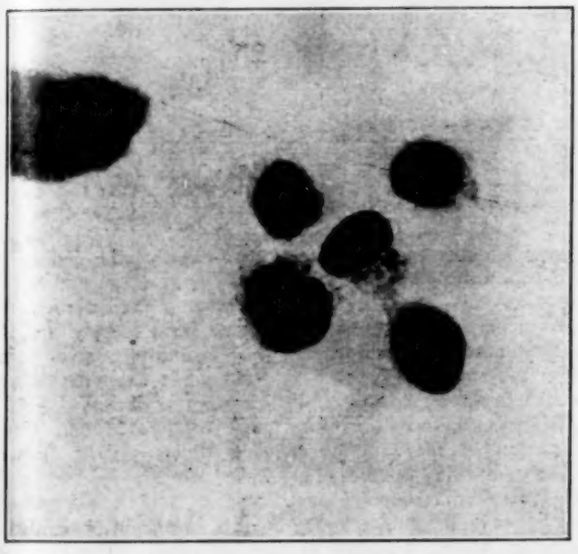

Fig. 2 (case 1).—Five large cancer cells with large nuclei and nucleoli in the sputum (hematoxylin and eosin stain, × 1,320).

day following admission, and no endobronchial lesion could be detected. However, some sputum was aspirated from the right main bronchus. Examination of these secretions showed the presence of one clump of 5 large atypical epithelial cells. Their nuclei were relatively large and hyperchromatic and contained prominent deeply stained nucleoli. The diagnosis was neoplastic cells in the sputum (fig. 2).

A right pneumonectomy was attempted. The lung was observed to be adherent to the anterior thoracic wall, and there was mediastinal infiltration. A small piece of pleural adhesion was obtained for biopsy. Severe hemorrhage was encountered in attempted separation of the lung from the thoracic wall. Despite all the usual measures, including massive transfusion, the patient went into shock and died. At autopsy an orange-sized tumor was seen in the upper lobe of the right lung. Microscopic examination of the specimen obtained at operation showed fibrous tissue invaded by small cords of anaplastic hyperchromatic epithelial cells. The diagnosis was bronchogenic carcinoma, undifferentiated.

CASE 2.—A 57 year old white male coffee packer entered the hospital complaining of cough, weakness and weight loss of 27 pounds (12 Kg.) during the previous year. During this period he had had frequent colds, chills, fever and night sweats. Two months before admission his cough became productive of blood-streaked sputum, and one week prior to admission he had had a frank hemoptysis of "2 cups" of blood. His brother, with whom he lived, died of pulmonary tuberculosis; his mother died of "pneumonia."

Physical Examination.—The blood pressure was 155 systolic and 90 diastolic, temperature 100.8 F. and pulse rate 68; respirations were 24. The patient was a well developed poorly

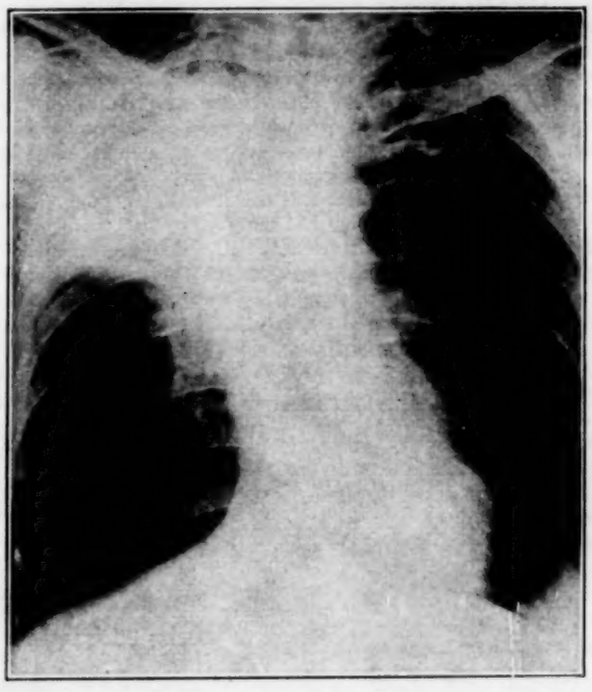

Fig. 3 (case 2).—Roentgenogram of the chest, showing upper lobe consolidation in the right lung. This was thought to be tuberculous pneumonia.

nourished white man of 57, who appeared chronically ill. Noteworthy observations were confined to the chest and extremities. Over the upper half of the right side of the chest, anteriorly and posteriorly, there were increased tactile and vocal fremitus,

Fig. 4 (case 2).—Clump of hyperchromatic malignant cells in the sputum. Large nuclei and one large nucleolus are visible (hematoxylin and eosin stain, × 1,320).

dulness to percussion, decreased breath sounds and whispered pectoriloquy. The extremities showed moderate clubbing of fingers and toes.

Laboratory Observations.—The white blood cell count was 15,900, without appreciable shift in the differential count. The Kahn and Wassermann reactions were positive. Three sputum

examinations failed to reveal acid-fast bacilli. Roentgenograms of the chest, taken on admission, showed a consolidation of the upper lobe of the right lung. This opacity was not homogeneous and contained small round shadows of decreased density. The trachea was slightly deviated to the right. These observations were thought to be consistent with consolidation in the upper lobe of the right lung, probably tuberculous in origin (fig. 3). Sputum examination revealed the presence of clumps of large epithelial cells of varying size. The nuclei were hyperchromatic and varied in size and shape. One or more deeply staining nucleoli were present in each nucleus. The diagnosis was neoplastic cells in the sputum (fig. 4).

Subsequently three bronchoscopies were done. Irregular thickening of the right mainstem bronchus up to and including the carina was seen. Three specimens obtained for biopsy failed to reveal cancer. The patient was considered inoperable, despite the negative results of biopsies, because of the bronchoscopically observed carinal involvement. He was given palliative roentgen therapy, but died three months after the diagnosis was made. At autopsy the upper lobe of the right lung was almost completely replaced by a firm grayish white tumor mass. A tumor thrombus occupied the pulmonary vein and extended into the left atrium. Metastases were seen in the right hilar lymph nodes, the right adrenal gland and the right kidney. Microscopically the tumor was composed of anaplastic spindle-shaped epithelial cells with prominent nucleoli. There was extensive fibrosis and necrosis, probably the result of the roentgen radiation. The diagnosis was bronchogenic carcinoma, squamous cell type.

CASE 3.—A 49 year old white salesman complained of a chronic productive cough for the ten years prior to admission. He brought up about half a cup of mucoid sputum, but had no hemoptysis, night sweats, fever, chills or weight loss. Five days before admission he coughed up a small blood clot, and thereafter on one or two occasions the sputum was slightly blood streaked. There had been no hemoptysis since. Also

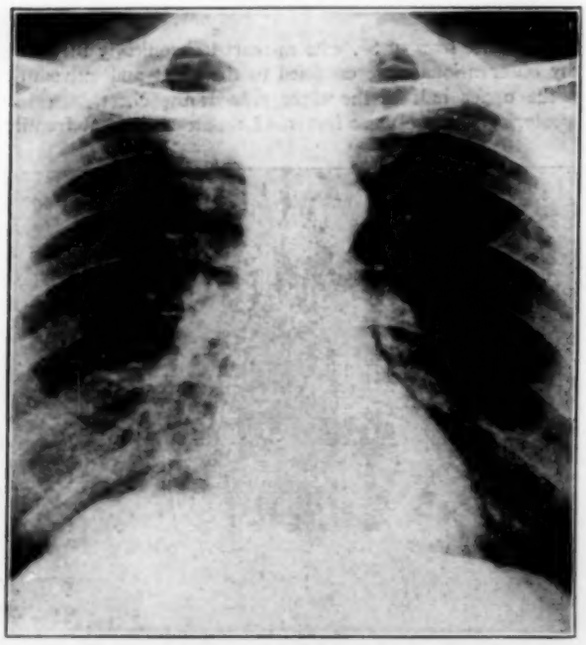

Fig. 5 (case 3).—Roentgenogram of the chest, showing infiltrate of the upper lobe in the right lung. The diagnosis was subapical tuberculosis.

for the past three to four months he had noted increasing clubbing of his fingers. From a roentgenogram of the chest, taken by his physician, the diagnosis was pulmonary tuberculosis.

On admission physical examination showed a blood pressure of 130 systolic and 80 diastolic, temperature 99 F., pulse rate 76 and respirations 20. The patient was well developed and well nourished and appeared to be in good health. The chest was normal to percussion and auscultation. The extremities showed decided clubbing of the fingers and toes. The results of the remainder of the physical examination and the laboratory observations were not remarkable. A roentgenogram of the chest showed an area of increased density in the upper medial portion of the right lung, measuring about 6 by 5 cm. This density was continuous with the upper aspect of the right hilar shadow. The chest was otherwise entirely normal (fig. 5). The sputum was examined on the day following admission.

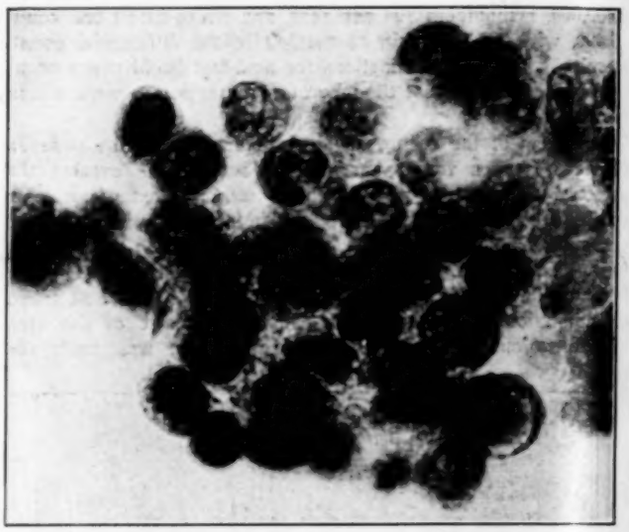

Fig. 6 (case 3).—Portion of a large clump of tumor cells in the sputum. The cells vary in size, and the nuclei and nucleoli are large (hematoxylin and eosin stain, × 1,320).

It contained numerous clumps of large epithelial cells, which varied significantly in size. The nuclei were large and hyperchromatic, and some of the cells were multinucleated. In almost all of the nuclei one or more large deeply staining prominent nucleoli were present. The diagnosis was neoplastic cells in the sputum (fig. 6). Bronchoscopic examination was entirely without significant observations.

A right pneumonectomy was done by Dr. Mudd. Gross examination of the lung revealed a tumor arising from a secondary division of the upper lobe bronchus in the right lung, about 4 cm. from the main bronchial orifice. Microscopic examination of the tumor showed cords of anaplastic epithelial cells, which varied decidedly in size and shape. The cells had large vesicular nuclei and prominent nucleoli. The lymph nodes showed no evidence of metastases. The diagnosis was bronchogenic carcinoma, undifferentiated.

COMMENT

The cases presented exemplify the problem in the differential diagnosis of apical pulmonary disease and the aid that may be derived from the examination of sputum for tumor cells. Since tubercle bacilli are frequently not seen in early pulmonary tuberculosis, this diagnosis is often made on the basis of clinical and radiologic observations, without a serious attempt to exclude carcinoma. Furthermore, even when tubercle bacilli are identified in the sputum, the occasional coexistence of active tuberculosis and carcinoma must be borne in mind. Although this association had been uncommon, it may be encountered with greater frequency in the future as the life expectancy of tuberculous patients increases. Apical carcinoma must also be considered in a known arrested case of tuberculosis, when a change in the pulmonary lesion is demonstrated by roentgen examination. This is especially true in the older age groups.

Until recently the clinician has depended primarily on bronchoscopic biopsy for the diagnosis of pulmonary disease when the roentgenologic observations were incon-

clusive. However, bronchoscopic examination has several inherent shortcomings. The percentage of positive results of biopsies which can be obtained through the bronchoscope in proved cases of pulmonary carcinoma, irrespective of location, is only 42 to 62 per cent.[8] The percentage of failures is especially high when the lesions are situated in the upper lobes, for, unless the tumor is within a very short distance of the upper lobe bronchial orifices, it is beyond the reach of the endoscopist. While needle aspiration biopsy of the lung is a valuable procedure, we feel that it is too uncertain a method for use in the differential diagnosis of apical pulmonary lesions. The danger of entering a possible tuberculous lung or producing needle tract tumor transplants, not to mention its other complications, renders it unsuitable for this type of case. Exploratory thoracotomy should be employed only when all other means of diagnosis have been exhausted.

The outlook for patients with pulmonary carcinoma continues to be rather poor[9] and can be improved only by an accurate diagnosis early in the course of the disease, when resection is still possible. The examination of sputum for tumor cells offers a means of quickly establishing a histologic diagnosis. In our experience the incidence of tumor cells in the sputum has been highest in lesions of the upper lobes of the lungs, probably because of the better drainage of bronchial secretions from the upper lobes into the main bronchi, where they are readily expectorated. Thus, in the very cases in which bronchoscopy is oftenest of no help the sputum examination is most likely to give positive results. In the older age groups especially, sputum examination for neoplastic cells should be employed almost as routinely as the examination for tubercle bacilli in the diagnosis of apical pulmonary lesions.

SUMMARY AND CONCLUSIONS

Three cases are presented in which the observation of tumor cells in the sputum established a diagnosis of carcinoma of the lung when, clinically, tuberculosis was suspected.

Microscopic examination of the sputum for neoplastic cells is an important aid especially in the diagnosis of apical pulmonary lesions. In patients of the cancer age examination of sputum for the diagnosis of apical lesions should routinely include a search for tumor cells.

8. Overholt.[3] Ochsner, DeBakey and Dixon.[5c]
9. Lambert, A.: Carcinoma of the Lung, Am. J. M. Sc. **215:** 1-12 (Jan.) 1948.

Six Years of Profound Changes.—The last six years have seen the initiation of more profound changes in scientific medicine than any period since the discovery of bacteria or the invention of the microscope. This change has been brought about by many factors: the wholesale uprooting incident to the war, the development of antibiotics, the impact of social legislation, but above all the advent of atomic energy. . . . When we think that six years ago the average man had no more concern with ionizing radiation than as a means of checking on an aching tooth or determining the cause of chronic cough, whereas today millions of people live within the shadow of possible war-time exposure to ionizing radiation from the atomic bomb; when we realize that six years ago it would be a skilled chemist who could detect after hours of work a millionth of a gram of phosphorus and now a technician with a Geiger counter can detect a fraction of a millionth of a gram of radioisotopic phosphorus in a few minutes, we can realize how long a road we have come in this short span.—Warren, Shields, M.D., *Bulletin of the Atomic Scientists,* August 1948.

DISEASES OF THE LACRIMAL GLAND AND OCULAR COMPLICATIONS

JOHN A. MacMILLAN, M.D.
Montreal, Canada

For some years I have been interested in the lacrimal apparatus, at first mainly in the drainage of the lacrimal secretion, but more recently the lacrimal gland itself and its functions, together with some of its pathologic states. So much is unknown in this field that I thought I might attempt to gather a few of the known fragments and present them.

The lacrimal gland which secretes most of the tears in the conjunctival sac consists of two lobes; the orbital, the larger, about 20 mm. long, 12 mm. wide and 5 mm. thick, and the palpebral lobe, which is about one-half to one-third the size of the orbital one. It is wedged between the globe and the orbital wall, and the aponeurosis of the levator muscle is responsible for dividing it into the two lobes as the gland encircles its outer edge. This is well to remember when operations are to be performed either on the gland or on the muscle. According to Whitnall,[1] the lacrimal gland is a tubular racemose gland consisting of a mass of lobules, each lobule being made up of a collection of ramifying tubes, and each tube branching further into tubules or acini around a central canal the cells of which lie on a basement membrane. The large secreting type of cell occupies most of the acini and appears in different aspects, according to its secretory activity. The other type of cell is the flat myoepithelial cell, or the basket cell or so-called korbzelle, about which I shall speak later. Although there is a divergence of opinion about the appearance of the secretory cells and their secretory granules, it would seem that the function of the two kinds of cells is agreed on, namely, that the large cells secrete tears and the basket cells, by contracting, expel the secretion into the tubules. The tubules, which at first are intralobular, by joining with others become extralobular or collecting canals. These, by further joining, become the ducts of the gland, which are usually not more than twelve in number. The majority of these ducts come from the inferior lobe. They open into the conjunctival sac, mostly in the upper-outer angle of the fornix above the upper border of the tarsal plate, although one or two extend below the external ligament and open in the lower-outer part of the conjunctival sac. These lower ones are responsible for the occasional cyst found in this region. The ducts of the orbital gland usually traverse the inferior lobe in their course, which is an important anatomic point in the surgical treatment of excessive tearing by removal of the inferior lobe of the gland.

The cells of the acini are of a columnar shape and resemble the serous or albuminous cells of the salivary glands. There are no cells in the lacrimal gland comparable to the mucous cells of the salivary glands. The columnar cells contain fat droplets and large pale secretory granules which change in number, depending on the volume of the cell according to the stage of secretion.[2] Between these cells and the basement membrane, basket cells are to be seen. It is difficult, or impossible, to make out the outline of the cell bodies

Address of the invited foreign guest read before the Section on Ophthalmology at the Ninety-Seventh Annual Session of the American Medical Association, Chicago, June 23, 1948.

1. Whitnall, S. E.: The Anatomy of the Human Orbit and Accessory Organs of Vision, London, H. Frowde, Hodder & Stoughton, 1921, p. 210.

2. Maximow, A. E., and Bloom, W.: A Text-Book of Histology, ed. 2, Philadelphia, W. B. Saunders Company, 1934, p. 760.

in ordinary sections; but the nuclei are long and spindle shaped and can be easily seen. The smallest intralobular excreting ducts are lined by a layer of low columnar or cuboidal cells and have a few myoepithelial cells. The large intralobular ducts have two layers of epithelium. Beattie and McDonald [3] found that there were two separate secreting units in the lacrimal gland of cats: the alveoli and the secretory ducts. They expressed the belief that the alveoli were responsible for the secretion of large quantities of watery fluids, while the ducts secrete a fluid which contains a high percentage of solids. There is no evidence, however, that such exists in human beings.

NERVE SUPPLY

The nerve supply of the lacrimal gland is well known in that the fifth, seventh and sympathetic fibers reach the gland, but the manner in which they do this and the role which each plays are still unsettled. The fifth nerve supply is through the lacrimal nerve, the smallest branch of the ophthalmic or first division of the fifth cranial nerve. It enters the orbit through the lateral part of the superior orbital fissure, runs along the upper border of the lateral rectus muscle with the lacrimal artery and enters the gland and gives off twigs to the gland and to the conjunctiva. It receives a twig from the zygomaticotemporal branch of the zygomatic nerves, which is a branch of the maxillary or second division of the fifth cranial nerve. This twig is believed to contain secretomotor fibers from the sphenopalatine ganglion. This is disputed by some, especially Kalt,[4] as the zygomatic nerve leaves the maxillary nerve before the fibers from the sphenopalatine ganglion enter the maxillary nerve. For these fibers to enter the zygomatic nerve they would have to course backward in the maxillary nerve to run forward in the zygomatic nerve. The facial nerve supply is through the greater superficial petrosal nerve which arises from the geniculate ganglion of the facial nerve. Although it is made up chiefly of sensory fibers it probably contains a few parasympathetic fibers which go to the splenopalatine ganglion.[5] It leaves the geniculate ganglion and passes beneath the gasserian ganglion to reach the foramen lacerum, where it joins the deep petrosal nerve from the sympathetic plexus on the internal carotid artery and becomes the vidian nerve which ends in the sphenopalatine ganglion. From here the fibers from the facial proceed as previously described, by way of the zygomatic nerve and others by way of the orbital branches from the sphenopalatine ganglion. These latter are two or three delicate filaments which enter the orbit through the inferior orbital fissure and are distributed to the periostium and orbital muscle. Some fibers are said to convey secretomotor fibers to the lacrimal gland. This is the more direct pathway.

The sympathetic pathway seems to be along two courses: One is by way of the deep petrosal nerve from the internal carotid plexus which joins with the greater superficial petrosal nerve to join the sphenopalatine ganglion, and from there on the course is similar to that of the facial fibers. A second route is by way of plexuses along the internal carotid artery and its branches, that is, following the lacrimal artery to the gland.

If the course of the nerve fibers to the lacrimal gland, as mentioned previously, is not entirely agreed on, the role played by each in activating secretion is even more disputed. The general belief is that the sympathetic is responsible for the ordinary amount of fluid necessary for the physiologic requirements of the eye, that the facial supplies the excessive tearing and that the fifth nerve is an afferent pathway.

Babkin, however, said that all investigators agree that the secretory parasympathetic fibers for the lacrimal gland in human beings are derived from the nucleus salivatorious superior of the seventh nerve in the medulla and pass through the greater superficial petrosal nerve to join one of the trigeminal branches and reach the gland, presumably by way of the zygomatic and lacrimal nerves. It seems that the fifth nerve sends only sensory fibers to the eye and forms the afferent path of the lacrimal reflex. It is doubtful that secretory fibers originate in the nucleus of the fifth nerve.

The role of the sympathetic nerve in lacrimation is especially obscure. It is almost impossible to produce any secretion of tears by sympathetic stimulation. Certainly the sympathetic conveys vasodilator and vasoconstrictor fibers to the lacrimal gland, and it may convey motor fibers for the basket cells of the acini and tubules. This is only a supposition, as no detailed work on the secretory mechanism of the lacrimal gland in human beings has ever been carried out.

CONDITIONS ASSOCIATED WITH DIMINISHED TEAR SECRETION

Keratoconjunctivitis Sicca.—Probably the best known of the conditions associated with diminished tear secretion is keratoconjunctivitis sicca. This disease has been well described by Sjögren [6] in his extensive monogram, and a more recent contribution on the subject was given by Bruce, in 1941.[7] I do not intend to describe the condition in detail, as this is well done in the aforementioned articles, accompanied with an excellent bibliography. The commonest complaints are burning and itching of the eyes, with impaired vision at times. There is usually a dry feeling as well, and photophobia is often present. Usually there is stringy mucus present in the conjunctival sac which is difficult to remove, not unlike that seen at times in spring catarrh. This should lead to a suspicion of the diagnosis of keratoconjunctivitis sicca, and tear measurement should always be carried out. Dryness of the mouth is not always complained of, but on inquiry it is usually admitted. Similarly, swelling of the parotid gland and arthritis are often acknowledged only after inquiry. The flakes of mucoid material adhere to the cornea, and they are moved about only after a good deal of pressure through the lid. These may be mistaken for true filaments, which are usually found on the lower part of the cornea during some stage of the disease. Many of the cases reported have occurred in women about the menopause. I recently saw a patient, aged 37 years, who had had an artificial menopause produced twelve years previously; keratitis sicca developed two years after menopause, with no relief through general and local treatment until occlusion of the canaliculi, as first advised by Beetham,[8] was performed, after which practically all her symptoms

3. Beattie, J., and McDonald, P. R.: Cytological Changes in the Lachrymal Gland Following the Administration of Certain Drugs, Proc. Roy. Soc., London, s.B. **113**:217, 1933.

4. Kalt, M. E.: Anatomie et physiologie de l'appareil lacrymal, in Enclycopédie française d'ophtalmologie, Paris, E. Doin, 1903, vol. 1, p. 311.

5. Gray, H.: Anatomy, Descriptive and Applied, edited by T. B. Johnston, ed. 26, New York, Longmans, Green & Co., 1935, p. 1044.

6. Sjögren, H.: Zur Kenntnis der Keratoconjunctivitis sicca: Allegemaine Symptomatologie und Aetiologie, Acta ophth. **13**: 1, 1935; Zur Kenntnis der Keratoconjunctivitis sicca (Keratitis filiformis bei Hypofunction der Trönendrüsen), ibid. 1933, supp. 2, p. 1.

7. Bruce, G. M.: Keratoconjunctivitis Sicca, Arch. Ophth. **26**: 945 (Dec.) 1941.

8. Beetham, W. P.: Filamentary Keratitis, Tr. Am. Ophth. Soc. **33**: 413, 1935.

disappeared immediately. In a case in which I closed the canaliculi on one side only, the patient insisted on having the other similarly treated as soon as possible. This is done by inserting an electrocoagulation needle into the canaliculus for 3 or 4 mm., and sufficient current is used to destroy the epithelium so as to lead to closure. This method of treatment is so satisfactory that it should be instituted as soon as the diagnosis is made and the symptoms are distressing. Pathologic study of the condition in its early stages, as described by Sjögren,[9] shows that some of the granular tubules are replaced by a granular mass of protoplasm with no cell boundaries and the nuclei are found in irregular groups. Later the cells lose their connection with one another and lie like masses of free round cells. This is followed by the migration of round cells, and there is gradual conversion of the whole gland into connective tissue. Giant cells have never been seen. Nothing is mentioned of the condition of Krause's glands. It is presumed that similar changes occur in them.

Neuroparalytic Keratitis.—Perhaps the second most common condition associated with diminished tear secretion is neuroparalytic keratitis, or, as Rowbotham [10] called it, "paralytic interstitial keratitis." This at times follows operation or alcohol injection for the relief of fifth nerve neuralgia. It has never been reported in cases where the sensation of the cornea is preserved, that is, unless the ophthalmic division of the fifth nerve is physiologically severed. I feel that we, as ophthalmologists, should impress this on the neurosurgeons and endeavor to have them spare the ophthalmic division of the fifth nerve, or the fibers leading to it, if at all possible in operations for the relief of trigeminal neuralgia. The incidence of neuroparalytic keratitis, after complete section of the posterior root, or destruction of the ganglion by alcohol, is difficult to determine, as it may occur many years after surgical intervention. Harris [11] expressed the belief that it probably occurred in about 20 per cent of the cases. Others say 10 per cent, but both these figures seem high. Severance of the greater superficial petrosal nerve diminishes tear secretion, and Verhoeff [12] expressed the belief that this is probably responsible for the occurrence of the keratitis; yet I have seen the keratitis appear where the greater superficial petrosal nerve could not have been injured and the seventh nerve was also completely intact. Also, I have not seen a corneal lesion occur in a patient in years of follow-up after all the nerve supply to the lacrimal gland had been severed except some of the sympathetic supply. To relieve the persistence of severe pain due to right-sided fifth nerve neuralgia, Dr. William Cone carried out the following procedures in a case: a partial section of the fifth cranial nerve by the subtemporal approach, resection of the greater superficial petrosal nerve by the same approach, complete section of the fifth nerve through the occipital approach, removal of the superior cervical ganglion and, finally, section of the glossal pharyngeal nerve and the second, third and fourth cervical nerves on the right side. As the stellate ganglion was not removed, sympathetic fibers probably still entered the gland. There was anesthesia of the cornea, but, in spite of all this, tears were still present and the cornea remained normal for nine years, until the patient's death a few months prior to the time of reporting. The patient was addicted to drugs and alcohol, so that adequate protection of his eye could not have been adhered to. In neuroparalytic keratitis, which I believe is due to drying from lack of tear secretion, there is a loss of epithelium, but I have never seen filaments present as one sees in keratitis sicca. The area heals immediately when the lids are sutured together, and it remains so as long as they are left closed. A patient with neuroparalytic keratitis,[13] after the closed lids were separated and the puncta occluded, remained well for twelve years. On account of this satisfactory result, which has held for such a long period, I feel that closure of the canaliculi may have as important a place in this condition as it has in the treatment of keratoconjunctivitis sicca.

Corneal Lesions.—Corneal lesions are reported in the literature following removal of the lacrimal gland, but in most of them there seemed to be other factors in which the accessory glands or their secretory fibers have been involved. I still believe that the lacrimal gland, orbital and palpebral lobes, may be removed with safety when Krause's glands are not affected. I have never seen a case of congenital absence of the lacrimal gland or absence of its secretion, as reported by Duke-Elder.[14]

Protein Content of Lacrimal Secretion.—Charlton [15] stated that the protein content of the lacrimal secretion has considerable practical application in the nourishment of the anterior layers of the cornea, and Gundersen [16] stated that complete peritomy does not cause any visible disturbance in the corneal epithelium, and he stated the belief, in view of this and other experimental evidence and in view of the fact that tears are rich in sugar and nitrogenous substance, that it is probable that the epithelium derives its nourishment chiefly from the lacrimal secretion. I have felt that the healing of corneal lesions in neuroparalytic keratitis by closure of the lids was at least partly due to the better nourishment received by the epithelium from the contact of the palpebral conjunctiva and that the healing was not simply due to protection alone.

Oversecretion of Tears.—Oversecretion of tears is a much commoner complaint. During winters in Montreal, one hears of this complaint daily. It is chiefly limited to the older age groups, and is not due to any fault of the drainage apparatus but to overproduction of tear secretion. I think that probing is bad practice in this type of case. If the tearing is troublesome enough, removal of the inferior lobe of the gland should be performed, and in my experience this gives satisfactory results.

Disease of the Lacrimal Sac.—One cannot consider the problem of excessive tearing without considering disease of the lacrimal sac. Tearing after proper excision of the lacrimal sac is not as common as is believed. Paparcone [17] found only 4 or 5 patients with troublesome epiphora in 302 cases after extirpation of the tear sac. I have often felt that in many cases, after a clean excision of the sac without injury to the canal walls, some tears must escape into the nose. If the epiphora

9. Sjögren, H.: Keratoconjunctivitis Sicca, in Ridley and Sorsby,[21] p. 403.

10. Rowbotham, G. F.: Observations on the Effects of Trigeminal Denervation, Brain **62**: 364, 1939.

11. Harris, W.: The Facial Neuralgias, London, Oxford University Press, 1937, p. 62.

12. Verhoeff, F. H.: The Cause of Keratitis After Gasserian Ganglion Operations, Am. J. Ophth. **8**: 273, 1925.

13. MacMillan, J. A., and Cone, W. V.: Prevention and Treatment of Keratitis Neuroparalytica by Closure of the Lacrimal Canaliculi, Arch. Ophth. **18**: 352 (Sept.) 1937.

14. Duke-Elder, W. S.: Keratitis Sicca, Brit. J. Ophth. **14**: 61, 1930.

15. Charlton, C. F.: Protein in the Tears, and Innervation and Secretion of the Lacrimal Gland, Am. J. Ophth. **4**: 647, 1921.

16. Gundersen, T.: Vascular Obliteration for Various Types of Keratitis, Tr. Sec. Ophth., A. M. A., 1938, p. 94.

17. Paparcone, E.: Ueber die chirurgische Behandlung der Dakryocystitis (Statistik über 302 total Tränensackentfernungen), Zentralbl. f. d. ges Ophth. **15**: 767, 1925-1926.

is troublesome, excision of the inferior lobe usually gives satisfactory relief. In elderly persons, and in those distant from expert care, when dacryocystitis is present I feel that excision of the sac, on account of its ease, is the operation of choice, but in younger persons a conservative operation should be carried out. I have never performed a dacryostomy, as advised by Arruga,[18] although I have seen 1 patient for whom the operation was performed with success. Occasionally, in troublesome tearing, when all other means of treatment have failed, excision of the lacrimal gland is advisable. An instance of this is the case of J. S. L., aged 42 years, a clerk, with troublesome tearing of both eyes for years. He gave a history of having had some form of conservative operation performed on his right lacrimal sac with excision of the inferior lobe of the right gland, with no relief. He also had left-sided chronic suppuraative dacryocystitis. I removed the left sac, and after this operation there was no epiphora in the left eye. One year later I removed the remains of the right inferior lobe of the lacrimal gland, but tears were still troublesome, and seven months later I removed the right orbital gland, with immediate relief, and recent correspondence reveals that he has remained free from tearing. The right lacrimal sac was not interfered with, as there was no regurgitation of pus and both canaliculi, which had been slit, were tied down in the scar.

Excision of the lacrimal gland is not difficult but does not seem to have met with much favor, possibly on account of the radical procedure reported by Holmes,[19] in which he removed the orbital gland at the time of the excision of the lacrimal sac.

Crocodile Tears Syndrome.—The crocodile tears syndrome is believed to be due to misdirection of fibers in regeneration of the seventh nerve after paralysis. Fibers intended for the parotid gland are diverted to the lacrimal gland, so that during mastication the salivary nucleus is also bombarding the lacrimal gland with the secretomotor stimuli.

Lysozyme.—In 1922, Fleming[20] described its presence in large quantities in the tears. Lysozyme is an enzyme with decided bacteriolytic properties, and, according to Ridley,[21] when it is present in full concentration it is capable of inhibiting the growth of all the common pyogenic cocci which may infect the eye. As lysozyme is impaired in its action by way of the common chemicals used as eye drops, Fleming[22] said that better results might be obtained if less attention were paid to the bactericidal action of chemical antiseptics and more care given to the bacteriostatic action, that is, the inhibition of growth of bacteria. I believe that this is a point which is too often forgotten.

TUMORS OF THE LACRIMAL GLAND

Tumors of the lacrimal gland are relatively rare, but not so uncommon as to be classed as curiosities. Lane[23] collected 229 cases up to 1922, and Ziporkes[24] said that about 275 cases were reported up to 1937. My colleagues and I have had 3 cases of tumor of the lacrimal gland[25] at the Royal Victoria Hospital, Montreal, the report of which follows.

Case 1.—Mrs. E. M., aged 64 years, had experienced pain in the left eyeball, on and off, for thirty years following a blow. The first sign of proptosis was in August 1930. Four months later there was a mass in the upper-outer angle of the orbit, which was removed. One year later there was recurrence; partial exenteration of the orbit, with removal of overlying bone, was done. The patient died from intracranial extension eight years after the first operation.

The histologic sections showed a central distinctly malignant area with closely packed cells arranged to form acini and cystic space, giving a cribiform appearance. At the periphery, however, there was a zone of pleomorphism having all the features of the so-called mixed tumors. It was obvious that an area of malignancy had developed in an originally benign growth.

Case 2.—Mrs. M., aged 30 years, gave a history of pain around the right eye one and a half years before examination in May 1933, at the beginning of proptosis. The eye was removed in England, in December 1935, with most of the new growth. She was given 40,000 mg. hours of radium at Middlesex Hospital. Roentgen therapy was continued in Montreal.

In December 1939, papilledema (left eye), headaches and vomiting developed. An intracranial expanding lesion was present. The patient died December 23. There was no postmortem examination. The extension was apparently from the orbit.

The histologic sections showed cords and strands of small dark-staining cells. The abundant tissue between the epithelial clusters was collagenous and often hyaline, not pseudomyxomatous. In some areas large aggregations of the epithelial elements took on the appearance of developing embryonic glandular tissue with small acini in the masses. Invasion of surrounding fatty tissue had occurred. This growth showed less evidence of pleomorphism than the others and was definitely invasive. Its cylindromatous character was a distinctive feature. It was classified as an adenocarcinoma.

Case 3.—Mr. E. C., aged 29 years, was first seen in June 1942 with a history of proptosis for three months and right-sided headache for five to six years. In July the mass was removed; it contained strumous material, seedlike in appearance. The patient made a good recovery. Seven months later there was recurrence in the same position. A lage part of an infiltrating mass was removed and exenteration was advised. The patient was seen by many consultants. Opinions varied from exenteration to roentgen and radium therapy. The patient refused exenteration. Extensive roentgen therapy was given. At the time of reporting the patient was still living, with no recurrence, but there was a mass below the tip of the mastoid. The patient refused biopsy.

Histologically the tumor was extremely pleomorphic with strands of epithelial cells, some showing squamous cell structure, a large amount of pseudomyxomatous tissue and areas of solid growth of closely packed branching cells which conformed to the basket cell derivatives described by Sheldon.[26] There were no areas simulating cartilage and no cylindromatous formation. This tumor was considered a pleomorphic adenoma.

COMMENT

From the classification of the original observers, reported by Warthin[27] and Lane, one might get the impression that the lacrimal gland is characterized by its ability to produce a large number of different types of growth. Actually, it is known that the opposite is the case and that aside from the lymphomatous infiltration in the Mikulicz syndrome and the occasional neoplastic curiosities all the tumors so differently desig-

18. Arruga, H.: Surgical Treatment of Lacrimation, Arch. Ophth. **19**: 9 (Jan.) 1938.

19. Holmes, C. R.: Extirpation of Lacrymal Sac and Gland, Arch. Ophth. **28**: 1, 1899.

20. Fleming, A.: On a Remarkable Bacteriolytic Element Found in Tissues and Secretions, Proc. Roy. Soc., London, s.B. **93**: 306, 1922.

21. Ridley, F., and Sorsby, A.: Modern Trends in Ophthalmology, New York, Paul B. Hoeber, Inc., 1941, p. 382.

22. Fleming, A., in Ridley and Sorsby,[21] p. 491.

23. Lane, L. A.: A Study of Tumors of the Lacrimal Gland with Report of a Mixed Tumor, Am. J. Ophth. **5**: 425, 1922.

24. Ziporkes, J.: A Case of Mixed Tumor of the Lacrimal Gland, with Retinal Folds and Choroidal Detachment, Which Disappeared After Removal of Growth, Arch. Ophth. **18**: 933 (Dec.) 1937.

25. The pathologic slides were also examined by Dr. T. R. Waugh, professor of pathology, McGill University.

26. Sheldon, W. H.: So-Called Mixed Tumors of the Salivary Glands, Arch. Path. **35**: 1 (Jan.) 1943.

27. Warthin, A. S.: A Case of Endothelioma of the Lachrymal Gland (Myxo-Chondro-Endothelioma Cylindromatodes), with an Analysis of Previously Reported Cases of Lachrymal Gland Tumors, Arch. Ophth. **30**: 601, 1901.

nated are only variants of a single type ranging from benign to malignant pleomorphism. To this type the unsatisfactory term of "mixed tumors" is applied most frequently. No mention seems to have been made of the basket cells playing a part in the origin of these tumors, as occurs in the salivary glands and described by Sheldon. Case 3, herein reported, seems to be an example. If Sheldon's observations in tumors of the salivary glands are also true for tumors of the lacrimal gland, it might add to our knowledge of their development. In his conclusions, he stated that tumors of the salivary glands include cancerous and noncancerous neoplasms composed of one or two different types of neoplastic cells. Both types of cells are normally present in the salivary glands; one is represented by the secreting epithelium and the other by the basket cells. Some of the tumors arise from the epithelium, others from the epithelium and basket cells, which are true organized tumors, and a few arise from the basket cells alone. It seems to me that in future it would be helpful to try to classify tumors of the lacrimal glands along these lines.

In conclusion I should like to mention the views of Elton Mayo, who says that "knowledge of acquaintance" comes from direct experience of fact and situation, while "knowledge about" is the product of reflective and abstract thinking. I have tried in this presentation, as much as possible, to adhere to the expression of the former.

PRESENT STATUS OF THE PEPTIC ULCER PROBLEM

S. ALLEN WILKINSON, M.D.
Boston

Peptic ulcer is a classic example of a somatic disease which is greatly influenced by and possibly precipitated by psychic factors. All physicians have been impressed by the close relationship between nervousness, anxiety, worry or psychic trauma and the acute exacerbations of ulcer but we are apt to forget the admonition of Jordan [1] that there may be a somatopsychic as well as a psychosomatic interplay. The typical spring and fall exacerbations without obvious precipitating causes may result in worry, anxiety and nervous tension which in a sick person bring about family quarrels, business worries, fear of losing a job or other problems that are sure to aggravate any symptoms the unhappy victim may have.

The principal changes in the management of peptic ulcer in the last decade have not been primarily changes in diagnostic methods, but in the handling of the ulcer after the diagnosis is made. It is not the purpose of this paper to discuss the symptomatology or routine diagnostic methods that we all use, but rather to describe some of the problems in diagnosis and management.

To fail to find an ulcer when it is present deprives the patient of adequate treatment when he most needs it—in the early stages of the ulcer. Jordan [1] has properly said, "Clinical experience tends to show that peptic ulcer is too infrequently diagnosed rather than too frequently diagnosed." On the other hand, it is not proper to diagnose a peptic ulcer on the basis of history alone; the presence of the ulcer should be carefully verified by every means at our disposal. Incorrectly calling a functional digestive disturbance ulcer not only results in improper treatment, but it also wrongly labels the patient as having a disease that, later, may cause insurance companies or future employers to refuse to insure or to employ a person who is a good risk, to the serious detriment of the patient's economic status.

Not only should roentgenograms be employed in every case, but careful fluoroscopy is even more important. A small ulcer on the lesser curvature high in the media of the stomach would often be missed without careful fluoroscopic observation after a swallow ingestion of thick barium. Often by fluoroscopy antral spasm can be differentiated from a prepyloric malignant condition. A tiny, but persistent, deformity in the base of the duodenal cap can be verified by fluoroscopy when it can only be suspected from the roentgenograms. Palpation during fluoroscopy may be the only means of identifying a persistent fleck in the jejunum, the site of a jejunal ulcer. Such an ulcer may be tender, and the patient is often able to put his finger exactly over it at the time of the examination. The same finger point tenderness may be found present over an ulcer penetrating the posterior wall of the stomach or the duodenum, but this is not often the case.

An ulcer in the first portion of the duodenum beyond the duodenal cap can be recognized on the roentgenogram by a narrowing with a definite dilatation of the duodenum distal to this narrowing. At one time these areas were said to indicate duodenal spasm, but they represent actual ulcers. In fact, this narrowing may be all that can be found in the otherwise obscure bleeding ulcer. Roentgenograms of many of these patients following hemorrhage in the upper part of the gastrointestinal tract have been accompanied with a report of "normal stomach and duodenum," when the finding of the constriction might have given the clue to the actual location of the ulcer.

The laboratory data are helpful but never diagnostic. In particular too much reliance should not be placed on the presence or absence of gastric acid. While it is true that ulcer never occurs in the presence of true anacidity, it is also true that an occasional aspiration of gastric contents may fail to show acid even if an active ulcer is present. The old dictum that a malignant gastric condition produces achlorhydria is not always true. In 45 per cent of our cases of proved gastric carcinoma free acid was present in the stomach; hyperchlorhydria was present in 12 per cent.

Gastroscopy is now time tested and proved as a valuable adjunct to diagnosis, but its limitations are well known. By its use, one can often determine that an ulcerating lesion in the stomach is benign or malignant. However, the borderline cases may be just as difficult to determine from their gastroscopic appearance as from the roentgen appearance. In addition there are a number of blind spots where a fairly large lesion might be completely invisible. At the Lahey Clinic, my associates and I have found there has been a singular paucity of cases of gastritis. Some cases of gastritis, both atrophic and hypertrophic, are obvious, but my associates and I believe that in many of the borderline cases gastritis is not present, but simply day to day variations in a normal stomach. Gastroscopy will often show a small, incompletely healed gastric ulcer after the niche has completely disappeared on the roentgenograms.

Read before the Section on General Practice at the Ninety-Seventh Annual Session of the American Medical Association, Chicago, June 25, 1948.

1. Jordan, S. M.: Peptic Ulcer: A Diagnostic and Therapeutic Problem, Gastroenterology 9: 237-248 (Sept.) 1947.

MANAGEMENT OF PATIENTS WITH ULCER

Modifications of the old Sippy diet have proved most satisfactory, and we still prefer hourly feedings of milk and cream during a three week period of hospitalization. Neutralization of gastric acid is a prerequisite of good treatment. Diet alone will not adequately control the pain or heal the ulcer. Sippy powders are not used routinely, preference being given to aluminum hydroxide gel. We have had little success with the use of magnesium products. All of them, in doses adequate to control the acid, cause enough irritability and spasm of the colon to prevent their continued use.

Synthetic resins in finely powdered form theoretically offer the advantages of aluminum hydroxide without its disadvantage of aggravating constipation. Actually in about half of our cases in which it was the only neutralizing agent used the patients said that they felt no better or felt that their pain was increased.

Protein hydrolysates and amino acids have a place in the management of ulcer, but they do not contribute directly to the healing of the ulcer. The debilitated patient, the patient who has been on a deficient diet, the starved patient will all benefit from accessory feedings, including protein hydrolysates, just as they benefit from an extra allowance of vitamins. Many, and probably most, patients with ulcer, however, have been on adequate diets; they are not debilitated, and they have no protein deficiency. In this group accessory feedings of the portein hydrolysate type are costly, wasteful and unnecessary.

Enterogastrone is still in the experimental stage. Until a sufficient number of cases have been studied for a long enough time, it would be premature to try to judge or appraise its use in therapy. We have used enterogastrone in a small series, but are not yet ready to comment on our results. Bercovitz and his associates [2] recently reported on a series of intractable duodenal ulcers treated with an extract of pregnant mare's urine. It seems certain that some new and valuable form of hormonal treatment will emanate from the many investigations now under way at the instigation of the Committee on Peptic Ulcer fostered by the American Gastroenterological Association.

MANAGEMENT OF PATIENTS WITH GASTRIC ULCER

The medical management of patients with gastric ulcer has become a touchy problem. Some of our surgical colleagues have stated that all gastric ulcers should be treated surgically. They base their arguments on the following premises: (1) It is impossible to distinguish a benign from a malignant ulcer, clinically, roentgenographically or surgically; (2) the mortality of resection in skilled hands is less than 2 per cent; (3) recurrence of gastric or gastrojejunal ulcer after resection for a gastric ulcer is rare and practically does not occur, whereas after resection for duodenal ulcer both gastric and jejunal ulcer not infrequently recur.

The following comments oppose the foregoing arguments: 1. It is possible in most cases to differentiate clinically and roentgenographically between benign and malignant lesions. The percentage of malignant ulcers occurring on the lesser curvature of the mediums of the stomach in a young person (under 35) is extremely low. To sacrifice most of the stomach and permanently to change the digestive physiology in this large group to remove the rare malignant ulcer is an overuse of caution. The prepyloric ulcer in an older person may justifiably be regarded as a surgical problem from the start. In the younger group, however, frequent roentgen check-ups, gastroscopy and careful checking of stools for occult blood will furnish satisfactory evidence that healing has taken place. If an ulcer fails to heal in three to four weeks, that should be considered sufficient evidence to justify operation. If the ulcer heals but recurs at any time in the future, operation should be performed immediately without further treatment. Every patient treated medically for ulcer should be followed carefully and checked by roentgenogram yearly or oftener for the rest of his life. 2. Even though the operative mortality rate in skilled hands is low, the morbidity rate after a subtotal gastric resection is still high: neither the mortality nor the morbidity rate is lower in less skilled hands, and all physicians see patients who never feel entirely well or normal after such operations. Jordan and Smith [3] have recently written that only in 3.2 per cent of their patients with ulcer selected for medical management did a malignant condition develop in a five year follow-up period.

MANAGEMENT OF PATIENTS WITH COMPLICATIONS OF ULCER

The most common complication of ulcer is obstruction. True obstruction is a surgical problem, but many ulcers produce a temporary blocking due to edema and spasm. The truly obstructing ulcer can be differentiated from the apparent one by a procedure [4] of draining the stomach through a nasal tube. Malted milk, amino acids and antacids are introduced hourly. The tube is clamped for half the time and allowed to drain into a bottle below the bed for the other half. This procedure will decompress a dilated stomach, will relieve pain promptly, and, if the cause of the obstruction is not due to scarring, the pylorus will relax in twenty-four to forty-eight hours, allowing food to pass through freely. Those patients do not require surgical management, and if they are properly treated the obstruction will not recur. If the obstruction persists more than seventy-two hours, operation is indicated. The ulcer may seem better temporarily, but obstruction returns as soon as the patient is up and about.

Hemorrhage, the next most common complication, is the easiest to diagnose and the most difficult to treat satisfactorily, either medically or surgically. The patient who has had two or more gross hemorrhages in our series has a small chance of dying but an unenviable chance of recurrent hemorrhage in spite of medical management (80 per cent) and a greater than suspected chance of recurrence after subtotal resection (29 per cent).[5]

Intractability is given as a reason for operation on ulcer, but the definition of an intractable ulcer varies from group to group and even from physician to physician. We have tried to make a distinction between the intractable ulcer and the intractable patient. It is often the latter, who refuses to stop smoking,

2. Bercovitz, Z. T.; Page, R. C., and Heffner, R. R.: Oral Treatment of Chronic Duodenal Ulcer with an Extract of Pregnant Mares' Urine, read before the meeting of the American Gastroenterological Association, Atlantic City, N. J., April 1948; to be published.

3. Jordan, S. M., and Smith, F. H.: A Study of Gastric Ulcer, read before the meeting of the American Gastroenterological Association, Atlantic City, N. J., April 1948; to be published.

4. Wilkinson, S. A.: The Obstructed Peptic Ulcer, Am. J. Digest. Dis. **9**: 321-327 (Oct.) 1942.

5. Wilkinson, S. A., and Tracey, M. L.: The History of Hemorrhage in Peptic Ulcer, Gastroenterology **7**: 450-455 (Oct.) 1946.

who makes only desultory efforts to follow a diet, who cooperates poorly with any form of treatment, who helps to make up the large group of patients in whom treatment for ulcer has been a failure. This applies as well after operation as before.

VAGOTOMY VERSUS SUBTOTAL RESECTION

For years we have realized the shortcomings of subtotal resection as a treatment for ulcer. It does not guarantee freedom from recurrence; it is a major surgical procedure associated with some mortality and a larger morbidity; it is not always possible to remove the ulcer if it is a duodenal one. The operation imposes a major physiologic readjustment, and if it is not well done various unpleasant consequences ensue. If the anastomotic stoma is too big, the dumping syndrome is disabling and impossible to treat. If the stoma is too small, the gastric stump, which has little peristaltic activity remaining, empties too slowly. The patient complains of fulness and discomfort long after a small meal. As a result of inadequate intake, he loses weight and quickly loses the psychologic "lift" which first developed with the knowledge that at last he was getting rid of his ulcer. Postoperatively small intestinal adhesions may occur and cause partial obstruction. If recurrent jejunal ulcer occurs it presents both the patient and the surgeon with the vexing question, "Now what?"

With the advent of vagotomy it was hoped that many of these difficult problems would be solved. Theoretically the patient was left with an intact stomach and a desirable anacidity. Actually, the operation does relieve the pain of ulcer dramatically in 88 per cent of cases. Unfortunately the hoped for anacidity is difficult to attain. Postoperatively the gastric motility is so seriously impaired that most large groups have abandoned transthoracic vagotomy in favor of subdiaphragmatic vagotomy combined with gastroenterostomy. It is the belief of some thoracic surgeons that the ramifications of the vagus nerve in the chest are so diverse that it is next to impossible to get all the fibers. Dissections of cadavers have shown that in many instances major bundles of the vagus nerve enter the stomach through the esophageal muscles. It is now known that peptic ulcer does recur or that it may fail to heal following vagotomy. There are reports that ulcers have progressed until perforation has occurred, being completely without pain up to the moment of perforation.

At the Lahey Clinic over 90 vagotomies have been performed, 8 of which were transthoracic and 82, the remainder, subdiaphragmatic. In the majority of the subdiaphragmatic group, we have combined vagus section with subtotal gastrectomy. It is too soon to evaluate final results, but a recent review[6] of 62 of our cases of subtotal vagotomies combined with subtotal gastrectomy showed that the vagotomized patients had more complaints, more severe complaints, longer duration of complaints and just as many recurrent ulcers as those in a similar group who had undergone subtotal gastrectomy. It is for these reasons that we are skeptical of the permanent effects of vagotomy and are placing most of our reliance on subtotal gastrectomy. The one condition for which vagotomy alone might be considered is the recurrent jejunal ulcer following an adequately high subtotal gastric resection.

6. Wilkinson, S. A., and Sullivan, J. C.: Follow-Up of Vagotomy Plus Gastric Resection, read before the meeting of the American Gastroenterological Association, Atlantic City, N. J., April 1948; to be published.

POSTOPERATIVE MANAGEMENT OF THE PATIENT WITH ULCER

Operation, whether it be gastroenterostomy, subtotal resection or vagotomy, does not relieve the internist of his responsibility. If we have had any one fact firmly impressed on us, it is the necessity for meticulous and long-continued postoperative management of the patient with ulcer. The tendency of the patient who has followed a diet and has taken antacids more or less faithfully for a long time and who at last undergoes an operation is to say to himself, "No more diets or medicine for me. My ulcer is gone and I can eat and drink what I like." Nothing could be more incorrect. If he is to prevent recurrent ulcer, it is the duty of the physician to impress on his patient the need for long-continued care and observation. The patient should be instructed that he must not smoke; that he must not drink, at least until it can be proved that he has permanent achlorhydria, and that he should follow a careful dietary regimen. If his investment of time, of money, of pain and discomfort to reach his present position is explained to him, he will usually cooperate intelligently and well. It is largely in the group who fail to take these lessons seriously that the recurrences will be found.

SUMMARY AND CONCLUSION

Peptic ulcer presents a diagnostic problem chiefly with regard to the detection of small or obscure duodenal lesions. The therapy of ulcer offers a challenge to the patience, the acumen and the ability of the practitioner and the surgeon alike. The preoperative preparation and the postoperative dietary management of patients with ulcer subjected to operation are equally important. It is not yet proper to speak of any patient who has had ulcer as cured.

ABSTRACT OF DISCUSSION

DR. WINGATE M. JOHNSON, Winston-Salem, N. C.: Speaking of the diagnosis of ulcer, I have been impressed with the fact that the average patient with ulcer has few other digestive complaints. He is not likely to say that he hurts all over or is flatulent after meals. It is generally just that clearcut picture of pain before meals, relieved by eating, with recurrences. The patients often say that alkalies will give relief. One other point which I have found mentioned by Bockus, and which my own experience confirms, is that a patient with duodenal ulcer, unless he has had a recent hemorrhage, is likely to have a blood cell count which is a little higher than average. Hemoglobin will go up to 16 or 17 Gm., and red cell counts are of 5,000,000 to 5,500,000; on the other hand, the patients with gastric ulcer are likely to have a rather low blood cell count. So far as treatment goes, I was pleased to find that Dr. Wilkinson is a little conservative. I have found little use so far for protein hydrolysates. I think that the average patient does rather well on the typical ulcer regimen. As a rule I do not put my patients in the hospital, but in the beginning use a bland diet, with alkalies to control the acidity. I agree with what Dr. Wilkinson said, that the intractable ulcer usually occurs in the intractable patient. I have had patients who got no relief from pain until they stopped smoking. Many of my patients are allowed to continue to smoke in moderation, but there are a few who have pain and do not get relief from it until they stop smoking. I was interested in what was said about vagotomy. Being a medical man, I am not as surgically minded as some of my colleagues.

DR. S. ALLEN WILKINSON, Boston: Dr. Johnson is more lenient than I would be about smoking. I am firmly convinced that the proper treatment of ulcer includes complete stopping of smoking and that the difference, in most cases, between the patient who is well controlled medically and the patient who is partly controlled medically is whether he smokes or does not smoke.

STREPTOMYCIN AS ADJUNCT IN TREATMENT OF ACUTE PULMONARY TUBERCULOSIS

EDWIN R. LEVINE, M.D.
WILLIAM S. KLEIN, M.D.
and
ABEL FROMAN, M.D.
Chicago

With the introduction of streptomycin in the treatment of clinical tuberculosis in 1945 by Hinshaw and Feldman [1] there was hope, on the basis of experiments with animals, that this antibiotic would cause definite arrest or cure of pulmonary tuberculosis. It was not long before it became evident that in the type of tuberculosis most commonly seen in sanatoriums and hospitals, advanced tuberculosis with cavitation, treatment with streptomycin seemed to have at best only a temporary effect. It was noted that exudative tuberculosis would resolve and that early infiltrate might disappear, but that in general cavities remained and that the sputum cultures remained positive.[2] Fibrous elements in the lung, whether associated with cavities or not, were untouched by this drug.

The pathologic and physiologic aspects of the tuberculous lesion explain this type of reaction. Streptomycin reaches the diseased organs through the blood stream, and any lesion well supplied with blood has a chance to receive an adequate amount of streptomycin to produce the bacteriostatic effect. Such a pathologic condition is the acute inflammatory exudative type of disease.

That exudative areas are well supplied with blood is indicated clinically by symptoms caused by absorption of the toxic element from these areas into the blood stream, but well established cavities, as has been shown by Lipstein,[3] have little blood supply. The circulation around the cavity is barely enough to maintain viability of the tissue, and since well established cavities have a definite wall, there is little exchange between the circulating blood and the interior of the cavity. Clinically, this is evidenced by the absence of fever or toxic symptoms in the presence of a cavity unless some exudative elements exist elsewhere in the lung or the body. Since this is so, it would be expected that streptomycin or any other blood-borne medication would not have much effect on the tubercle bacilli residing within the cavity in the lung, although it might have a definite action on exudative areas in the lung of the same patient.

Another characteristic of streptomycin has also interfered with its general efficacy in pulmonary tuberculosis. This is the loss of effectiveness after a period of two to three months caused by resistance developed in the bacteria or the development of resistant strains.[4] For this reason it is generally considered that the peak of effectiveness is reached in sixty days and that little, if any, effect remains after one hundred and twenty days of treatment. However, it has been known for many years that tuberculosis does not heal in such a short period and that treatment must be continued over a period of many months or years to produce an adequate result. Consequently, any medicament the effectiveness of which is limited to a time so much shorter than the time required for treatment is not likely to be successful when used by itself.

All of these factors when added together seem to limit the use of streptomycin to early exudative tuberculosis without much cavitation. This would eliminate the most important group of patients requiring treatment—those with chronic pulmonary tuberculosis with well established cavities and acute tuberculosis with rapid caseation, cavity formation and pneumonic spread. The first group is customarily treated with bed rest, collapse therapy and operation. This treatment, which offers a high percentage of good results is, nonetheless, frequently interfered with by progressive disease and complications which nullify the effect of treatment. Acute tuberculosis cannot be directly attacked by operation or collapse therapy, but must be allowed to "cool off" with bed rest.[5] In a respectable percentage of cases this "cooling off" process never occurs, or only after the lung has been so seriously damaged that treatment is not possible.

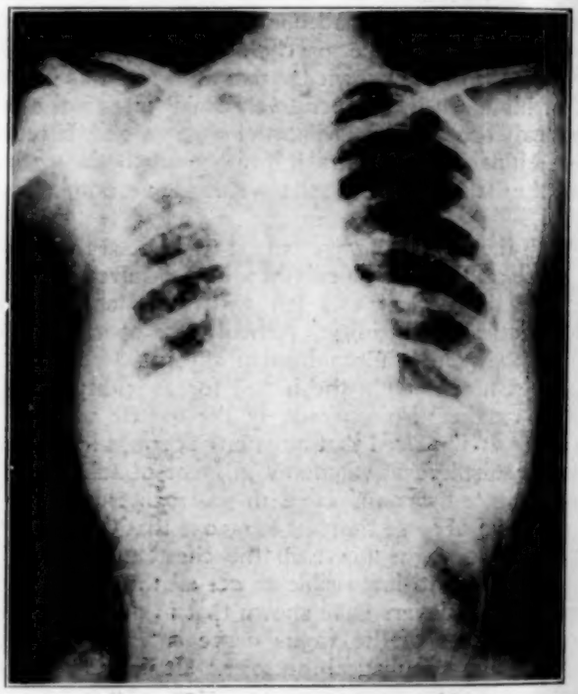

Fig. 1 (case 1).—Roentgenogram taken on admission, showing extensive caseous pneumonia on the upper lobe of the right lung and many bronchopneumonic areas in the lower lobes. On the left side a cavity may be seen underlying the third rib anteriorly, with extensive bronchopneumonic changes below.

It has been adequately demonstrated by Hinshaw and Feldman [6] that streptomycin will cause resolution of exudative elements and diminish toxicity and that during the first sixty days, at least, of treatment will prevent the extension of the disease. These characteristics of streptomycin cause just the change in an active tuberculous disease that is required to insure safe and successful collapse therapy.

It was for this reason that streptomycin was used in these two types of disease—not solely but as an adjunct to make possible or to render safe our estab-

From the Chest Service of Michael Reese Hospital and Winfield Hospital, Chicago.

1. Hinshaw, H. C., and Feldman, W. H.: Streptomycin in Treatment of Clinical Tuberculosis: A Preliminary Report, Proc. Staff Meet., Mayo Clin. **20**: 313, 1945.

2. Hinshaw, H. C.; Pyle, M. M., and Feldman, W. H.: Streptomycin in Tuberculosis, Am. J. Med. **2**: 429, 1947.

3. Lipstein, S.: The Use of Postmortem Arteriography to Investigate the Source of Fatal Hemoptyses and the Caliber of the Pulmonary Blood Vessels in Pulmonary Tuberculosis, Quart. Bull. Sea View Hosp. **3**: 416, 1937.

4. Youmans, G. P.; Williston, E. H.; Feldman, W. H., and Hinshaw, H. C.: Increase in Resistance of Tubercle Bacilli to Streptomycin: A Preliminary Report, Proc. Staff Meet., Mayo Clin. **21**: 126, 1946.

5. Hedbloom, C. A., in Goldberg, B.: Clinical Tuberculosis, Philadelphia, F. A. Davis Company, 1942, vol. 1, p. C-8.

6. Hinshaw, H. C., and Feldman, W. H.: Streptomycin: A Summary of Clinical and Experimental Observations, J. Pediat. **28**: 269, 1946.

lished methods of treatment. It was felt that a plan of treatment should be made in each case and streptomycin fitted into that plan at the place where it would be most effective, with the time limitation of its effectiveness borne in mind. Such a program was used in the treatment of 26 patients with far advanced bilateral tuberculosis, whose disease was too acute or too extensive for routine collapse or surgical measures. The following cases indicate how this program worked out.

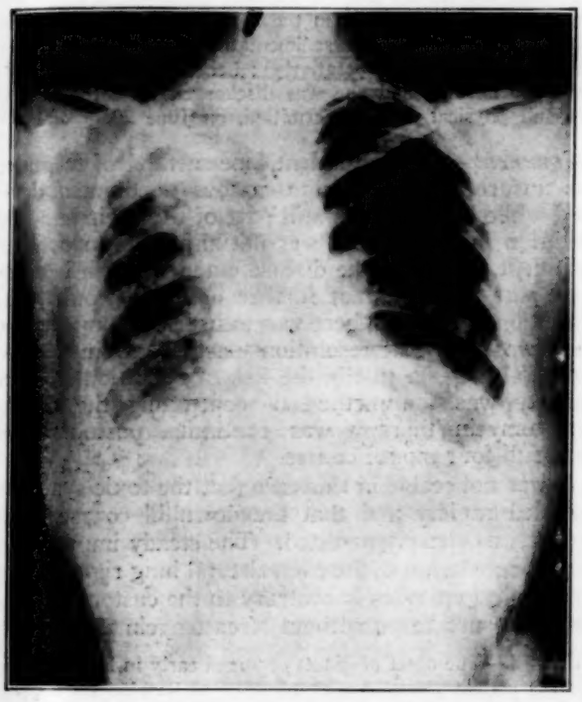

Fig. 2 (case 1).—Roentgenogram showing further destruction in the upper lobe of the right lung and extension of the disease. A pneumothorax was done on the left side.

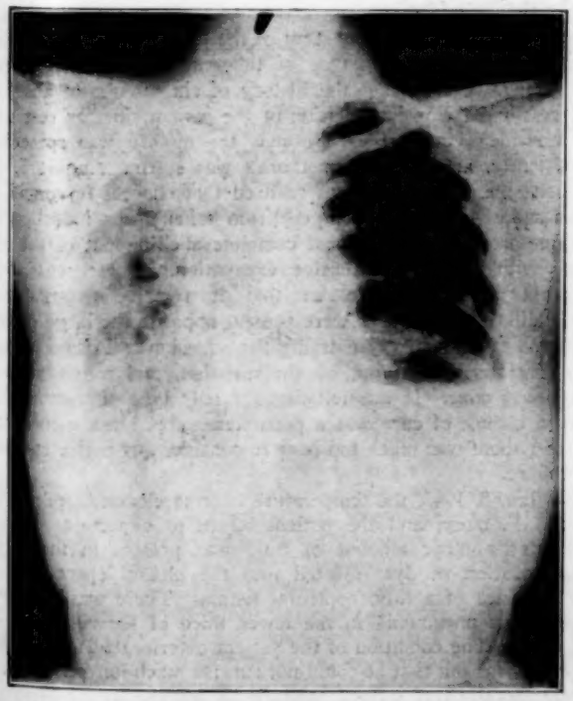

Fig. 3 (case 1).—Roentgenogram taken shortly after administration of streptomycin, showing little improvement, with the cavity still present on the left side and the appearance of tuberculous effusion.

REPORT OF CASES

CASE 1.—M. K., a 21 year old white woman was admitted to Winfield Hospital on Sept. 24, 1946, with a three month history of tuberculosis. On admission the patient was acutely ill and had a spiking temperature with daily variation between 100 and 103 F., and a pulse rate of 100 to 120. The roentgenogram (fig. 1) showed extensive far-advanced bilateral disease, with almost complete involvement of the right lung, multiple cavitation in the upper part of the right lung and tuberculous pneumonia below. On the left, the apex was involved with cavitation in the middle part of the lung.

Pneumothorax was attempted, without success, and bed rest was continued, with the patient maintaining a steady downhill course. At this time her condition was toxic, and there was evidence of tuberculous enteritis, tuberculous bronchitis and laryngitis. On October 25, a diagnostic pneumothorax was done on the left side.

Her condition became so poor that it was highly questionable whether any treatment would be able to stop the course of this disease. Nevertheless, it was our feeling that, if the toxicity of the disease were decreased and its progression stopped, there might be some chance of applying surgical collapse to the right lung. The major lesion was on the right side, occupying almost the entire area of the lung. There was a lesion occupying the apex and the middle part of the left lung, and a diagnostic pneumothorax was done to determine whether cavitation was present and whether pneumothorax could offer some control of this lesion. Collapse was successful and showed a small cavity in the middle part of the lung.

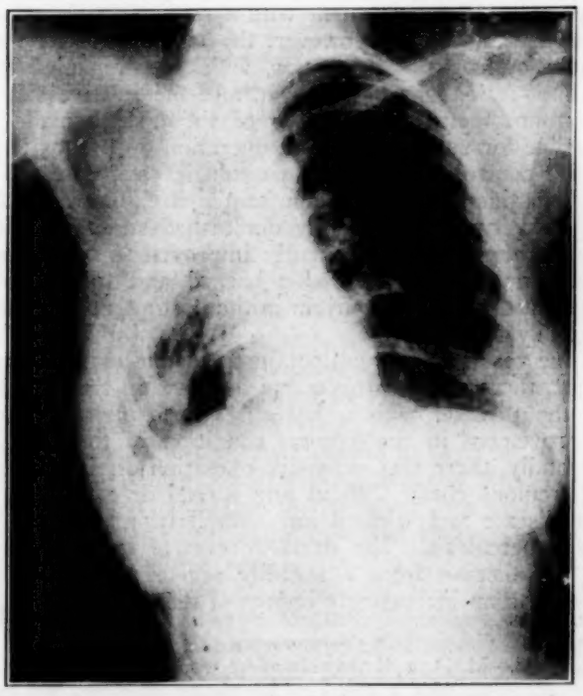

Fig. 4 (case 1).—Roentgenogram taken eight weeks after thoracoplasty and after pneumothorax of the left lung had been abandoned, showing the lung to be clear. There was no further extension of the disease on the right, and the general condition of the patient was good.

This collapse was maintained, and treatment with streptomycin was started on November 6, 2 Gm. a day. At this time the temperature reached a peak of 102 F. every day; the pulse rate varied between 120 and 140, and the patient was extremely sick and her condition toxic (fig. 2). Little improvement was noted after four weeks of treatment, although the roentgenogram did seem to show some clearing of the acute pneumonic areas in the right lung. By December 20, five weeks after the institution of streptomycin therapy, the temperature had dropped as low as 101 F. daily, the pulse rate varied from 105 to 120 and the patient showed sufficient general improvement to justify surgical treatment (fig. 3).

Thoracoplasty was done in three stages, the last stage being done on Jan. 27, 1947. With each stage of thoracoplasty there was decided improvement in the condition of the patient, and at no time was there any evidence of exacerbation of the disease or extension of this process. Pneumothorax was discontinued on January 15, after the second stage, because of the extreme dyspnea of the patient. It was hoped that, since the cavity had already closed with streptomycin therapy, it might remain obliterated. With completion of surgical treatment, the reaction of the sputum became negative, and it remained so. Eight weeks after the first stage of operation the patient was allowed out of bed, and a program of gradual physical rehabilitation was instituted (fig. 4). The patient responded well to this treatment and was discharged six months later with a diagnosis of arrested disease. She has remained well since and on a program of normal activity.

Comment.—This represents a type of case in which the disease is not amenable to treatment in ordinary circumstances. This was active progressive caseous pneumonia in a young girl, and as indicated, there was no noticeable improvement with a reasonable period of complete bed rest. However, the loss of toxicity and resolution of exudative areas, which accompanied the administration of streptomycin, and the relative safety from postoperative extension of the disease made it possible for us to perform an operation on this patient, which controlled the active pathologic condition. The plan in this case was to administer streptomycin until the toxicity was sufficiently diminished and the condition of the patient sufficiently improved to make surgical treatment a justifiable hazard and to continue treatment with streptomycin in the postoperative period for fully four months.

The result in this patient justified our expectations. First, there was a progressive decrease in the toxicity of the disease, with a lowering of temperature and improvement in the general condition of the patient. Secondly, there was extensive operation on an actively tuberculous chest, without any spread or extension of the disease and without any complication referable to the tuberculosis. The decided reversal in the course of the disease from a steadily accelerating downhill course to an increasingly improved status was dramatic in this case.

Case 2.—M. B., a 24 year old white woman, was admitted on Oct. 31, 1946, with a seven month history of cough and pain in the left side of the chest. The reaction of the sputum was highly positive, and a large cavity was visualized in the upper lobe of the left lung, with a shadow off the left cardiac border which could be demonstrated to be encapsulated interlobar effusion.

Pneumothorax was induced on the left side November 11 as the procedure of choice. However, the collapse was contraselective, the diseased area of the lung being completely adherent, and the cavity remained open. On December 2, the patient complained of sticking pain in the right side of the chest posteriorly, and roentgenographic examination at that time revealed a fresh pneumonic area in the base of the upper lobe of the right lung. On serial examinations this area in the right lung seemed to be increasing in size, showing suspicious signs of excavation, and there appeared to be extension into the lower lobe of the left lung. Because of the completely ineffective pneumothorax on the left, surgical treatment was considered indicated. However, the acute nature of the disease and the progressive lesion in the right lung gave evidence that extension could be expected during the surgical period with a probable unfortunate result.

Treatment with streptomycin, 2 Gm. daily, was started on December 20, at which time the patient had a temperature of 101 F. daily, and a two stage thoracoplasty was performed in January 1947, at which time the temperature was normal and resolution had occurred on the right side. The streptomycin therapy was continued through the postoperative period until February 13.

After operation the patient's cough and need for expectoration disappeared completely, and the reactions of the gastric washings had remained negative from February 24 to the date of writing.

Serial roentgenograms showed progressive resolution on the right side, and at the time of the last examination there were only a few fibrous strands in the area of the previously acute caseous tuberculosis. Her sedimentation rate was 6 cc. (contrasted with 22 cc. preoperatively); her temperature and pulse rate were normal, and she was discharged from the hospital, with full physical activity permitted, on June 20.

Comment.—In this patient, one method of treatment was unsuccessful and acute caseous pneumonia developed while bed rest was still part of the regimen. The condition in this patient was not amenable to ordinary treatment, and since the disease extended with bed rest, there was no hope that further bed rest would cause resolution. The plan here was to use streptomycin until there was sufficient resolution, particularly in the contralateral lung, to justify the risk of operation. Thoracoplasty was the method of controlling the disease. Streptomycin therapy was continued postoperatively for a full four month course.

It was noticeable in this case that the toxic symptoms subsided rapidly and that the downhill course of the patient was sharply arrested. The steady improvement of the acute lesion in the contralateral lung right through the surgical episodes is contrary to the customary experience in such cases without streptomycin therapy.

Case 3.—The onset of illness occurred early in February 1946, and the patient (W. G.) was admitted to hospital on February 26. There he remained, with complete bed rest, until he was admitted to Winfield Hospital on July 24. On admission he had a high spiking temperature, ranging from 99 to 103.8 F., and his general condition was poor. The patient was extremely weak and thin. A roentgenogram showed extensive caseous tuberculosis, involving almost all of the left lung, with extensive cavitation and multiple areas of tuberculous exudation in the right lung. Considering the history of six months of absolute bed rest and the poor condition of the patient, further rest was not considered advisable. Because the disease was spreading consistently, artificial pneumothorax was started August 5, on the left side, although it was realized that chances of complications were great. A roentgenogram taken after induction of pneumothorax showed almost complete shelling out of the left lung, with resulting extensive excavation. There was some decrease in temperature, so that it remained consistently below 101 F. Adhesions were present opposite the large cavity, with the cavity actually entering the adhesions. Pneumonolysis was thus considered out of the question, and a left phrenic crush was done. It was felt that the only type of treatment to offer a chance of cure was a pneumonectomy, but the condition of the patient was much too poor to consider any major surgical procedure.

On Jan. 8, 1947, the temperature became elevated, spiking up to 103 F. daily, and the patient began to expectorate larger amounts; a large amount of fluid was present in the chest. Expectoration of dye injected into the pleural space showed the presence of a bronchopleural fistula. There was extensive tuberculous pneumonia in the lower third of the right side of the chest. The condition of the patient deteriorated to the point where it was felt that he could not survive much longer. Streptomycin therapy was started January 13, because of the bronchopleural fistula and contralateral tuberculous pneumonia. It was felt that if the pneumonia in the right lung would improve somewhat, it might be possible to operate on the left. There was decided improvement and resolution of the pneumonia on the left side, and a thoracotomy was done with insertion of a tube in February. Following this, the patient improved, and there was a decided decrease in toxicity. The temperature remained irregular; fever was low grade, never exceeding 101 F.

On April 13, a first stage thoracoplasty was done; the second stage was done on April 23 and the third on May 8. The patient had an uneventful recovery from each stage of operation, although the last was extensive, with removal of part of the parietal pleura. He returned to Winfield Hospital May 24, and his temperature remained consistently below 99 F., his general condition being much improved. He continued to gain weight and strength, was allowed out of bed eight weeks after the first stage of operation and continued to improve. The right lung, in which acute tuberculous pneumonia had occurred, showed complete resolution, with only a few fibrous strands remaining at the site of the pathologic condition.

This patient's condition continued good. He gained 34 pounds (15 Kg.), the sputum cultures remained negative for tubercle bacilli and under a program of rehabilitation he returned to a normal status. After one year of observation and rehabilitation, he was discharged to continue his training as watchmaker and had remained well as of the time of writing.

Comment.—The disease in this case got completely out of hand. There was no control of the extensive lesion in the left lung. There was acute tuberculous empyema with bronchopleural fistula and subsequent extensive tuberculous pneumonia on the other side. The reduction of toxicity by the use of streptomycin plus the resolution of the pneumonic disease on the right side made it possible to do the extensive operation on the left. The plan here was to use streptomycin until the toxicity was sufficiently reduced to risk surgical treatment in small stages with the use of streptomycin, with the hope thereby of avoiding further extension to the right side from the bronchopleural fistula and the cavity until such time as these two areas were brought under control by the surgical procedure. Streptomycin therapy was continued for five months.

In this case the activity was such that there was no reason to believe that streptomycin would effect control of the disease. In fact, we do not believe that streptomycin controlled the tuberculosis in this case. Actually, what was accomplished was the diminution of toxicity, so that the patient could be built up to withstand extensive surgical treatment. During the same period decided resolution of the extensive tuberculous pneumonia occurred, and there was no further extension, although the bronchopleural fistula remained open.

These three factors created a clinical situation comparable to that of a patient with a disease of much lower toxicity that had not spread and without bronchopleural fistula. Such a condition is amenable to surgical treatment, which was possible in this case. The patient withstood the operation well and continued his improvement postoperatively, even after streptomycin therapy was stopped.

CASE 4.—A. D., a white woman aged 30, was admitted to Winfield Hospital Sept. 30, 1946. The onset of illness was five months before admission, and the patient had a regimen of complete bed rest for three months before admission to the hospital. Examination showed an acutely sick woman, with extensive bilateral far advanced tuberculosis and a giant cavity in and multiple cavitation of the upper lobe of the left lung and multiple cavitation of the upper lobe of the right lung, with areas of tuberculous pneumonia below. She showed a spiking temperature, varying daily from 99 to 102 F. and a pulse rate varying from 100 to 120. There were associated tuberculous enteritis, laryngitis and bronchitis.

Because of the progressive deterioration in the patient's condition, artificial pneumothorax was instituted on the left side on October 7, with the hope of controlling some of the disease. The cavity did not close, and a broad adhesion was seen extending to the thoracic wall at the site of the cavity in the lower lobe. The acuteness of the lesion and the fact that the cavity was so close to the adhesion made pneumonolysis an extremely dangerous procedure, and the risk was considered too great to justify the operation.

On Jan. 1, 1947, streptomycin therapy was started, with the feeling that if the toxicity of the disease decreased enough it might be worth the risk of cutting this large adhesion. If this procedure resulted in closure of the cavity of the lower lobe, it might be possible to induce some type of collapse on the right side. There was some improvement about two weeks following the institution of streptomycin therapy. One month after streptomycin therapy had been started the temperature remained below 100 F. Pneumonolysis was done, without any complication, on April 1. However, the cavity did not close. On April 10, there was some increase in temperature, and a week later the patient began to show daily increase, the temperature reaching as high as 104 F. This was not thought to be due to the pneumonolysis, since there was no fluid or other evidence of pleural inflammation, and a roentgenogram showed some new pathologic changes on the right, the side opposite to that operated on.

Streptomycin therapy was continued for two months longer, totaling five months of treatment. During the latter two months, however, the temperature continued elevated. Laryngeal symptoms and evidence of lesion reappeared, and the condition of the patient deteriorated. Also, during this period there was increased activity of the lesion on the right side, with many new areas of tuberculous pneumonia and additional cavities in the upper lobe.

Comment.—This was a case that did not appear to differ from some of our cases in which treatment had been successful. There was, however, one major difference. At no time did the clinical status change sufficiently to justify enough collapse or enough surgical treatment to control the tuberculosis. The changes shown by this patient, in regard to decrease in toxicity, improvement in general condition and resolution of exudative elements, were equal to those in our cases in which operation was employed. However, the location of the pathologic condition, that is to say, the fact that there was almost complete destruction of the left lung and extensive cavitation in the upper lobe of the right lung, made surgical treatment impossible, because of the lack of respiratory reserve.

Consequently, we observed that after one hundred days our patient began to show increased symptoms, rise in temperature and recurrence of tuberculous bronchitis and laryngitis, which had previously been much improved. Following this, there was extension of the tuberculous disease on the right side and a continued downhill course. We feel that such observations indicate that the control offered by streptomycin therapy is limited as to degree and as to time and that whatever definite method of controlling tuberculosis is to be used, it must be used within the limited period. Furthermore, whatever surgical treatment is indicated, it can be done only when the control offered by streptomycin therapy brings the patient within that limitation.

DOSAGE

The dose used in this series of cases varied from 2 Gm. in the beginning to a present accepted dose of 0.5 to 1 Gm. daily. At the beginning of this work streptomycin was administered in eight divided doses in twenty-four hours. The process changed as information on the drug increased, and we are now administering the aforementioned dose in a single daily injection. We have found that in most cases 0.5 Gm. daily is an adequate amount. This is similar to the experience of other workers in the field.[7]

7. Pfuetze, K. H., and William, A. M.: Present Status of Streptomycin in Tuberculosis, Dis. of Chest **14**: 446, 1948; Report of Committee on Chemotherapy and Antibiotics, American College of Chest Physicians, ibid. **14**: 766, 1948.

COMPLICATIONS

No serious complications were noted in the entire series. It was noticed, furthermore, that the diminution of the dosage to 1 Gm. of streptomycin a day was associated with a decided decrease in the number of complicating symptoms. Dizziness was the commonest complication occurring in the series, associated with permanent vestibular changes in only 1 patient. Numbness around the mouth, nausea and itching of the skin also occurred. Since for all of these patients the expected benefit from streptomycin therapy outweighed any except the most dangerous of complications, we were not deterred from its use by the untoward symptoms that occurred. Even if a larger percentage had shown permanent loss of equilibrium, we do not believe that this would contraindicate the use of streptomycin in a patient whose prognosis is questionable without it. There was no loss of vision and no deafness or other permanent toxic manifestations.

RESULTS

There were 26 patients in this group. One of the criteria used in the selection of cases was that the opinion of the entire staff must be that collapse therapy or surgical measures were imperative to effect a successful result and that bed rest alone would not do this. Furthermore, there was general agreement in each of these cases between the medical and surgical departments that surgical collapse was extremely hazardous or impossible at the time streptomycin therapy was started.

Of the 26 patients, there was successful collapse or operation in 24. In 1 of the 24, for whom a pneumonectomy had been done, there developed a bronchial lesion and exudative disease in the remaining lung within six months following operation. One patient did not improve sufficiently to permit any surgical procedure, and after one hundred days the original symptoms returned, with a downhill course. One patient recovered sufficiently to justify surgical collapse, but died in the postoperative period from atypical pneumonia, which was demonstrated by autopsy.

When we consider these results with the complications that occurred, we feel that in no case were the complications sufficiently severe to vitiate the beneficial effects of streptomycin therapy. Another interesting study is of the result of treatment on the pathologic changes in the lung opposite to that operated on or collapsed. In every case there was decided improvement. In 7 of the cases there was definite roentgenographic evidence of real fibrosis, representing an advanced healing stage of the tuberculous disease in that lung. Demonstrable cavities closed in 2 cases, and there was resolution of the exudative tuberculosis in every case in which such disease was present. It is noteworthy that in the 2 cases in which the contralateral lung showed extensive cavitation the cavitation remained unchanged during treatment with streptomycin. In 1 such case the disease extended as previously noted, and in the other it was possible to use bilateral pneumothorax to effect bilateral control. Treatment was given as follows:

Thoracoplasty	11 cases
Pneumothorax	9 cases
Pneumonolysis	3 cases
Pneumonectomy	3 cases

COMMENT

In this series of cases streptomycin was used as an instrument, or as an adjunct, and not for complete cure. Used thus it has an effectiveness and value unequalled by any other type of medicament. However, it is worth emphasizing again that in patients with advanced caseous tuberculosis, who make up such a large proportion of the patients treated, streptomycin therapy alone does not affect the total result, nor is it possible to apply collapse and surgical procedures in all of these patients without such aid. The combination of streptomycin with collapse therapy or other operation was the important factor.

In this connection, it is noted that the time schedule seems to play a greater part in the treatment in this type of case. One can never be sure, when treatment is started in extensive tuberculosis, just how soon the disease will be definitely controlled. Consequently, the margin of safety, representing the time when streptomycin therapy will still be effective, should be rather large, so that, if operations are delayed, if more stages are required than were anticipated or if the cavity does not collapse within the anticipated time, the effectiveness of streptomycin therapy will remain until control is assured. For this reason treatment with streptomycin should not be started in this type of case until a complete plan of treatment has been worked out. If streptomycin is used too early, there is the ever present danger that at the time when its effectiveness is most necessary that effectiveness will be greatly diminished.

In general, a period of one to two weeks of streptomycin therapy should be sufficient before operation, except for the patients who are so weak and toxic that, in addition to a degree of control, it is necessary to rebuild the patient before surgical intervention is attempted. Such a situation should be avoided, if at all possible, since the period of rebuilding may be longer than the effective period of streptomycin therapy.

We feel, furthermore, that there is a great danger inherent in the indiscriminate use of streptomycin for pulmonary tuberculosis. A trial period, to see whether cavities will close or lesions come under control, is tempting to the clinician and certainly desirable from the standpoint of the patient. However, when one considers that such a trial period must cover a minimum of sixty days, one realizes that if it should fail the opportunity to use the protective and deterrent action of streptomycin during the period of operation and collapse, when extension of the disease is likeliest to occur, would be lost. Furthermore, if there should be temporary improvement, followed months later by reactivation of the tuberculosis, there is always the danger that the resistance to streptomycin will remain. There is as yet insufficient evidence to make any statement regarding the return of sensitivity or the duration of resistance.

Consequently, it would seem that streptomycin should be used only when there are definite indications, for a definite purpose and as a part of a completely formulated plan. It should never be used in a therapeutic test or during a period of observation of a patient for whom other treatment may be required.

SUMMARY AND CONCLUSIONS

Streptomycin is not effective in the treatment of chronic pulmonary tuberculosis with well established cavities. However, for this condition, as well as for acute tuberculosis with rapid caseation, cavitation and pneumonic spread, streptomycin was used as an adjunct to the regular and accepted methods of collapse therapy and excision. We have observed it to be the most valuable single medicament known to us.

To date, the disease in 19 patients, all of whom presented lesions which were impossible to treat or could be treated only with great risk, has been controlled successfully by this means. Apparently streptomycin ther-

apy caused a decided diminution of toxic symptoms, inhibited further spread of the disease and aided in the resolution of recent infiltrations. This had the effect, in general, of altering a lesion so that it could be successfully treated by standard methods.

We feel that in pulmonary tuberculosis, with the exception of early simple exudative disease, streptomycin therapy should not be instituted until a complete plan for the treatment of the patient has been formulated. There is great danger in using streptomycin too early, in that its effectiveness may be lost by the time collapse therapy or other surgical procedure is needed, and the assistance thus rendered would be wasted.

It has been noted that in these two types of disease, streptomycin therapy, although not successful in producing a cure, had certain definite effects. There was decrease in temperature and in other toxic symptoms, and no further spread of the disease occurred while recent infiltrations became resolved. Considered in the light of collapse therapy, this means that the factors which prevent treatment or interfere with successful completion are eliminated by the use of streptomycin.

Special Article

REFUGEE PHYSICIANS IN THE U. S. ZONE OF GERMANY AND THE MUNICH MEDICAL TEACHING MISSION OF 1948

LOUIS FINDLAY, M.B., Ch.B.
Munich, Germany
and
ALEX. M. BURGESS, M.D.
Providence, R. I.

PART I

Throughout Germany today, in former SS *Kasernen*, temporary wooden barracks, shell-pocked apartment houses, small housing units, former slave labor camps and exschoolhouses and monasteries, live the United Nations displaced persons.

There are 280,000 of them receiving care and maintenance from the International Refugee Organization in the United States Zone of Germany, and another 160,000 existing precariously on the German economy but potentially eligible for legal, repatriation or resettlement assistance from the International Refugee Organization.

The displaced persons or refugees represent the remainder of the forced laborers and concentration camp victims of the Nazis, as well as those who fled from their homelands in fear of political or religious persecution. They include also the children kidnapped under a Germanization program, thousands of whom have since been traced to the homes or institutions to which they had been given as booty.

When the International Refugee Organization began operation in July 1947, it assumed responsibility for the care in assembly centers of refugees and displaced persons.

During the last twelve months, 16,000 refugees have left the camps to return home and 72,275 have departed for resettlement in one of fifty-one countries which have offered to receive them.

Part I was written by Dr. Findlay, chief medical officer, International Refugee Organization, United States Zone, Germany, and part II by Dr. Burgess, chairman of the Medical Teaching Mission.

Some of the countries have opened their doors only a crack, admitting only five or six new settlers, usually relatives of their citizens. Others, like Great Britain, Canada, Belgium and South American countries, have taken thousands of new settlers, primarily on employment schemes and chiefly from among the single men and women or married couples without families.

Most encouraging news to displaced persons still in camps was the passage of the D. P. Act of 1948, which would permit 205,000 of them to go to the United States during a two year period, a number of whom will be doctors, dentists and nurses.

However, those still awaiting a passport to somewhere have taken a positive part in improving their lot. Instead of sitting on their suitcases in the 46 square feet of space allotted each displaced person, they have assumed the task of self government in their communities; they have enrolled in vocational training courses; they publish newspapers and magazines (of which there are seventy-two in the United States Zone), they supply the skills needed by the community—its doctors, nurses, dentists, teachers, engineers, lawyers, camp police, maintenance workers, seamstresses.

When the International Refugee Organization assumed responsibility for the camps, there were 2,500 international recruited employees administering approximately the same number of displaced persons, who are now supervised by 750 International Refugee Organization employees. The difference was made possible by the increased emphasis placed on assigning to displaced persons the responsibilities for running their own affairs.

In the medical program for the refugee population the displaced persons have also assumed a large part of organizing their own affairs and are now largely responsible for much of the medical organization and services.

In the United States Zone of Germany the international staff of medical officers who supervise the public health program in the displaced persons' camps has been greatly reduced in the past year with consequent responsibilities devolving on physicians and nurses who are displaced persons. There remains only a small supervisory staff of International Refugee Organization medical officers who have over-all responsibility for the medical and hospital services. That the health records of the displaced persons remain satisfactory and, in fact, progressively improve is a particular tribute to the large number of D. P. doctors and other medical personnel who staff the International Refugee Organization hospitals and camp clinics. Generally speaking, it can be said that the health status of the displaced persons is good, and this is confirmed by all available statistics on hospitalization rates, communicable diseases and infant mortality rates. The nutritional status in general compares favorably with that of most Western European countries today.

The population of displaced persons has available to it an extensive hospital and camp medical service largely maintained by the loyal work of the displaced persons medical personnel of all categories. In the United States Zone of Germany there are 2,733 hospital beds for tuberculous patients and 4,616 hospital beds for general patients. All these hospital beds are in hospitals operated by the International Refugee Organization, and in addition the International Refugee Organization has

contracted with many German hospitals for the additional care of displaced persons.

The average displaced person living in a large camp has immediately available to him, inside his own community, a full range of medical clinics, staffed for the most part by specialists in their particular fields of medicine. The camp polyclinic usually centers round the camp hospital or infirmary and comprises a camp pharmacy, general medical clinic, special clinics for gynecology, children's diseases, venereal diseases and tuberculosis. In addition there is usually a well-baby clinic, infants' milk center, school clinic and school feeding center. It will be seen, therefore, that the displaced person has available to him a more easily accessible and more extensive medical service than he has probably ever experienced before. Tuberculosis is subject to special control measures, and a network of tuberculosis control clinics is in operation throughout the United States Zone of Germany, staffed by specialists in tuberculosis, both displaced persons and German. In conjunction with these control clinics a mass roentgen examination is at present in progress and a mass BCG vaccination program was completed during the summer of 1948. A rehabilitation program, both for selected persons with tuberculosis and for other disabled persons, has been started and will be extended during the coming six months. The incidence of communicable diseases among the displaced persons is remarkably low and immunization precautions and spraying with DDT (dichlorodiphenyltrichloroethane) are routine. During the summer of 1948 an epidemic of typhoid ocurred in one locality in Bavaria because of an infected water main which supplied a displaced persons' community as well as the neighboring German town. In the German community there occurred 1,018 cases of typhoid with 83 deaths, while in the displaced persons' camp concerned there were 14 cases of very mild typhoid and no deaths.

MEDICAL POPULATION

During 1948 a special board was constituted by the International Refugee Organization to establish and register the medical credentials of displaced and refugee physicians and other medical personnel. A special board was established for the same purpose of registering qualified nurses and midwives: similar boards constituted by the International Refugee Organization were established in other zones of Germany and other areas of its operation. The special qualifications (medical) screening board established in the United States Zone of Germany consisted of five permanent members and a number of consultant members. The members of the board were carefully selected by the International Refugee Organization on account of their nationality and knowledge of medical schools of Eastern Europe. The president of the board is Professor Jenö Kramar, a Hungarian professor and former Rockefeller scholar who is referred to again in the second part of this paper. The board and consultants are all themselves displaced persons. They were charged with the responsibility of interviewing all medical and dental personnel and registering their qualifications. In a large number of cases the doctors among the displaced persons had managed to retain their original diplomas or documents of medical qualification, and in these cases the work of the board was relatively simple, although in all cases identity and credentials were scrupulously checked. In many other cases, however, the doctor, during his years of hardship, often in a concentration camp, had lost all trace of his original documents. Such cases were fully investigated by the board. Photostatic copies or certificates of qualification could sometimes be obtained from the original medical school, and many other means were followed by the board in establishing the medical register. It can be stated with the fullest confidence that the work of this board has been done according to the highest concepts of medical ethics, and that the medical register of the International Refugee Organization is a true reflection of the medical qualifications of the displaced persons registered. The International Refugee Organization is issuing to each person registered a certificate stating the particulars of his original medical qualifications. As a result of this registration there are at the present time in the United States Zone of Germany 1,461 registered refugee physicians, of whom 901 are general practitioners.

It will be seen, therefore, that the resettlement of these refugee physicians, many of whom are men of high medical caliber, is a major problem facing the International Refugee Organization today. At present many of these doctors are filling their time by caring for the medical requirements of their own groups of displaced persons. Others are unemployed and longing for the day when they can again put their knowledge and skills to the benefit of communities. Others, already frustrated by their years in concentration camps during the war or in displaced persons' camps since their liberation, have accepted work opportunities as laborers in countries offering resettlement. There is, without a doubt, a large number of well trained and widely experienced physicians anxiously awaiting the opportunity to give a wider service.

In the field of medical education it has not been possible to do a great deal since the end of World War II, although much excellent work has been done in nursing education. All graduate nurses among the displaced persons have benefited by refresher courses. In the summer of 1948, however, it has proved possible for the International Refugee Organization to organize, with the assistance of voluntary agencies, two postgraduate medical refresher courses in a finely established International Refugee Organization hospital in Munich. The International Refugee Organization approached the Unitarian Services Committee in New York, a committee with extensive experience in organizing medical postgraduate courses in Europe, with a view to the establishment of such a course for physicians among displaced persons. The Unitarian Services Committee willingly accepted this proposal and agreed to sponsor the arrangements for the course in the United States.

Dr. Alex. M. Burgess, who contributes the second part of this paper, was appointed as chairman of this medical teaching mission. Dr. Burgess, physician in chief at the Rhode Island Hospital until January 1948 and professor of health and hygiene at Brown University, had as his colleagues Dr. Peter Chase, retired senior surgeon of Rhode Island Hospital, Dr. Benjamin Kramer, associate professor of pediatrics, Long Island Medical College, Dr. Sidney Greenberg, instructor in medicine at Cornell Medical School, and Dr. Robert Alter, recently appointed professor of obstetrics at the American University, Beirut, Lebanon.

The medical specialists selected as students for these postgraduate courses were selected by the International Refugee Organization medical officers and by the medical director of the American Joint Distribution Committee, one of the voluntary agencies supporting the International Refugee Organization in this teaching project.

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PART II

With the background of information that has been presented by Dr. Findlay it remains to describe the actual operation of the mission and as far as is possible at this time to evaluate the results that have been achieved. The original plan of the course has in the main been followed. Certain deviations were made in the first of the four week sessions because of the death of a relative of one of the members of the mission which necessitated his return to America. Furthermore, about three quarters of the teaching material, slides, charts and so forth did not arrive until the course had been in operation for two and a half weeks. These difficulties were overcome in the following manner.

Professor Jenö Kramar, himself a displaced person, conducted the work in pediatrics for the first two weeks in the place of Dr. Benjamin Kramer. He had formerly been professor of pediatrics at Szegad in Hungary, as well as dean and rector of the university. He was familiar with medical literature through 1943. His teaching laid the ground work for the presentations of newer material made by Dr. Kramer on his return at the beginning of the third week.

In place of the slides the staff was forced to use various illustrations from medical books and periodicals or to improvise charts, but these were exhibited successfully by the use of an excellent epidiascope, which the mission was able to secure from Professor Singer, Director of the department of pathology of the hospital.

The routine work in the course consisted of ward rounds or clinics from 9 to 10:30 a. m. and "lecture periods" at 11:00 a. m., 2 p. m. and 3:30 p. m. These "lectures" were presentations of various topics, each by a member of the mission, followed by a discussion period of varying length. In some instances they assumed the form of panel discussions in which various aspects of a subject were presented, each by a different person, and these were followed by a general question and answer period. For example, thyroid disease was taken up by the internist, then by the pediatrician, the gynecologist and the surgeon. The regular work of the day ended at 5 p. m., and on three evenings a week a medical motion picture, followed by another which was nonmedical, was exhibited for the entertainment of those who cared to attend. This type of daily program was carried on five days a week, with Saturday and Sunday free to allow those enrolled in the course to have time for study and recreation.

A medical library was established through funds furnished by the International Refugee Organization, with a D. P. physician on duty at appropriate times as librarian. In addition to this every physician enrolled received one textbook in English as a permanent possession, the gift of the International Refugee Organization. The library contained volumes written in English and purchased in America, as well as some in German which were obtained in Switzerland.

Certain additional features were added to the original plan of work. A weekly conference on pathology with the demonstration of postmortem material, both gross and microscopic, was held by Professor Singer. These were very instructive and valuable exercises and in many instances were related directly to the subject matter which had been taken up in the "lecture periods."

Besides these demonstrations, visits to various clinics were made by the groups interested in each of the specialties with which the mission was concerned. For example, the internists visited the International Refugee Organization sanatorium for treatment of tuberculosis at Gauting, where an excellent clinical meeting was held for their benefit, and the latest methods were demonstrated by staff members most of whom were themselves displaced persons. The surgical group made visits to an orthopedic clinic and the U. S. Army 98th General Hospital, and the pediatric group attended two pediatric clinics in the city of Munich. In the same way those interested in obstetrics and gynecology went to the University Frauen-Klinik in addition to their daily attendance at the International Refugee Organization Altersheim Hospital, Munich.

The language difficulty in the exercises was overcome by the use of expert interpreters during the lecture hours. The best of these were persons who were attending the course. As a rule presentations of cases were given in German, and many of the lectures had previously been translated into German and given to the students. The organization of the mission was completed such a short time before the work commenced that one of the members had barely one week in which to prepare his material and no one had a sufficient opportunity to give to the work the time it deserved.

Before considering the results achieved by the courses it is appropriate to discuss the type of physician who had been enrolled for the work. As Dr. Findlay has pointed out, these persons had been carefully selected, and it was realized by the members of the mission before the work began that the persons to whom they were to give instruction were capable and highly trained. In the address of welcome at the beginning of each course the chairman of the mission stressed the fact that the exercises represented conferences between colleagues and that the only reason why the instructors were in a positon to take the lead in the presentations was because they had been so situated that they had maintained touch with the advances in their specialties during and after the war years, while, on the contrary, their less fortunate European colleagues had been unable to maintain such contact. In many instances it became obvious that the prewar experience and training of some persons in certain phases of the subjects discussed considerably exceeded that of the instructors. This would be of necessity the case when such broad fields of work as general medicine, general surgery and the other specialties under consideration had to be presented each by an individual teacher. This situation is illustrated by the fact that two of the "students" were expert cardiologists each of whom had recently completed a book on electrocardiography. One of these men was of great assistance in discussions and demonstrations on this topic. Several were expert in diseases of the respiratory system; several were pediatricians of many years' experience, and there were a number of

highly trained surgeons in the course. The very fact of their familiarity with their own specialties made these men all the more eager to learn of the advances that had been made since they had been in touch with world medicine. By the same token they were ideal students who as a rule realized instantly the value and implications of the new methods and technics which were presented to them. In addition to more complicated matters, discussions and demonstrations of such fundamentals as routine complete physical examinations and history taking were taken up on several occasions, and the group demonstrated to all concerned that their ideas and methods were sound. Such exercises were of benefit to all. The very limitations as to supplies and equipment under which D. P. physicians have been forced to work have emphasized to them the value of many of the less complicated methods of dealing with disease, and in general they demonstrated their ability to excel in such matters.

In discussions with many of the physicians about their work in the displaced persons' camps it became evident that some of them had been showing remarkable energy and initiative under discouraging conditions. The striking health records of the D. P. population to which Dr. Findlay has referred is evidence of this. Many individual examples could be cited; for instance, the two young men, one from Hungary and one from Latvia, who collaborated in a chest survey of 6,000 of their people in which they used a single fluoroscope. This was a pioneer effort which focused the attention of the authorities on the need for such work and resulted in the importation of adequate apparatus and personnel. The same two physicians are now engaged in an extensive study of the condition of children born in displaced persons' camps. A number of experienced surgeons were present in the group, several of whom have been having a large operative experience in hospitals staffed by displaced persons. As has already been mentioned, the number of professors and teachers of lower ranks enrolled in the course was large.

In addition to a familiarity with the professional competence of the physicians taking the courses, the members of this teaching mission have been enabled to become rather intimately acquainted with a good proportion of their students and to form some warm friendships. The results of the work may be considered from three points of view: (1) the professional education of the displaced person physician, (2) the improvement of his morale and (3) the demonstration of his standing as a man and a physician.

As a teaching project the courses appear to have been successful. The students very generally have expressed appreciation and enthusiasm. As to morale, there is no doubt whatever that the opportunity for these physicians to participate in professional discussions and hospital exercises in their normal roles as expert has brought back to them a feeling of dignity and self confidence which, because of the harsh treatment to which they have been subjected, had in many instances sunk to a low level. As to the third point, the evaluation of these persons as members of the profession, it is the unanimous opinion of the members of the Munich Medical Teaching Mission that any country in which one of these physicians eventually settles may count itself fortunate because of the acquisition of a citizen of the highest type who cannot but enrich the life of his community.

Clinical Notes, Suggestions and New Instruments

ACUTE PERITONITIS FOLLOWING RUPTURE OF MESENTERIC LYMPH NODES

Report of Its Occurrence in a Case of Typhoid and in a Case of Paratyphoid

J. WARREN KYLE, M.D.
and
RUSSELL H. PATTERSON, M.D.
Memphis, Tenn.

Although involvement of mesenteric lymph nodes in typhoid and paratyphoid is well recognized, suppuration of these nodes with rupture and peritonitis is rare.[1] We are reporting a case of acute peritonitis due to such rupture, occurring in the fourth week of typhoid, which simulated an acute perforation of a typhoid ulcer. We are also reporting from the records of the John Gaston Hospital a case of paratyphoid in which there was generalized peritonitis due to rupture of a mesenteric lymph node.

REPORT OF CASES

CASE 1.—J. L., a 14 year old white boy, was admitted to the John Gaston Hospital on June 9, 1947, because of fever, periumbilical pain, anorexia and watery diarrhea of one day's duration. This had been preceded by malaise for several days, headache and a chill. The patient had been well until the onset of the present illness. The past history was noncontributory.

On examination, the temperature was 103 F., the pulse rate 118, the respirations 20 and the blood pressure 110 systolic and 68 diastolic. The patient was poorly developed, poorly nourished, febrile and apathetic in appearance. There was moderate tenderness in the epigastrium and the periumbilical region, but no rigidity or abdominal distention. The spleen was not felt. The results of the remainder of the physical examination were negative.

On admission, the white blood cell count was 10,350 and the hemoglobin was 13 Gm. The urinalysis showed a specific gravity of 1.028, albumin (2 plus) and no sugar; microscopic observations were normal. Blood, urine and stool cultures of June 10 were all positive for Eberthella typhosa. The results of typhoid agglutination were positive in dilution of 1 to 320 on June 25 and 1 to 2,560 on July 2.

There was a remittent fever, with temperature of 100 to 104 F., for three weeks. In the fourth week, the temperature declined to an intermittent 100 to 101 F. The patient was feeling fairly well by this time. On the morning of July 3, the twenty-seventh day of his illness, the patient was suddenly seized with a severe continuous generalized abdominal pain. There was nausea but no vomiting. This was followed by a rise in temperature from 99 to 103 F. and increase in pulse rate from 90 to 150. Examination at this time revealed abdominal distention, decided generalized abdominal tenderness, rebound tenderness and rigidity. The tenderness and rigidity were pronounced in the right lower quadrant of the abdomen. Peristalsis was audible.

In approximately two to three hours after its onset, the pain had become more localized in the right lower quadrant. At this time, the white blood cell count was 20,750. A roentgenogram of the chest, taken with the patient in an upright position, showed no free air under the diaphragm.

The patient was operated on approximately five hours after the onset of the pain, with a preoperative diagnosis of ruptured typhoid ulcer. With the patient under cyclopropane anesthesia, a right rectus incision was made and exploration carried out. Distention was seen uniformly throughout the intestinal tract, with a moderate amount of yellowish purulent fluid collected about the distended loops. The peritoneum showed decided hyperemia. What was thought to be typhoid ulcers were palpated through the wall of the lower part of the ileum. No per-

From the Department of Medicine and the Department of Surgery, University of Tennessee College of Medicine, Memphis.

1. Bell, E. T.: A Text-Book of Pathology, ed. 6, Philadelphia, Lea & Febiger, 1947.

foration was observed. Further examination revealed a group of lymph nodes in the ileocecal region which were enlarged and apparently fused together. Considerable purulent material was being discharged from a point of rupture in this group of nodes. Cultures were taken. The peritoneal cavity was suctioned out and drainage established with a soft rubber tissue drain through a stab wound in the right lower quadrant of the abdomen. The incision was closed without drainage.

The immediate postoperative course was stormy, being characterized by high temperature, accelerated pulse and pronounced apprehension. Treatment consisted of suction siphonage, intravenous administration of fluids, blood transfusions, intramuscular injection of streptomycin, 2 Gm. per day for eight days, intramuscular injection of penicillin, 400,000 units per day for five days and 240,000 units per day for four days, and intravenous and oral administration of sulfadiazine, 4.5 to 6 Gm. per day for fourteen days. Improvement was noted on the third postoperative day, and by the fifth postoperative day the temperature and pulse rate had returned to normal. At this time, suction siphonage was discontinued and all drains removed. The operative wound showed no evidence of infection. Improvement thereafter was rapid, with increasing strength and appetite. Cultures of the stool became negative for typhoid bacilli on July 31 and remained negative thereafter. The culture taken at operation was negative. The patient was discharged as cured on July 31, the twenty-seventh postoperative day.

CASE 2.—L. O., a 16 year old Negro girl, was admitted to the Memphis General Hospital (now John Gaston Hospital) on Dec. 29, 1923, complaining of generalized abdominal pain and fever. The onset was insidious two or three weeks before admission, with malaise, weakness and fever. The abdominal pain was not severe. There had been no diarrhea. The past history was noncontributory.

On examination, the pulse rate was 120 and the temperature 104 F. The patient was fairly well nourished, feverish and acutely ill. There was generalized abdominal distention, with a tympanitic percussion note and slight generalized abdominal tenderness. The liver, spleen and kidneys were not felt. The pelvic examination revealed moderate tenderness and fixation about the uterus. There was a sensation of a fluctuant bulging in the left side of the fornix.

Laboratory studies on admission showed a red blood cell count of 3,750,000, hemoglobin, 75 per cent, a white blood cell count of 12,800, with 78 per cent neutrophils and 22 per cent lymphocytes, and normal urine. A urine culture was positive for paratyphoid bacilli. On Jan. 4, 1924, a blood culture was positive for paratyphoid bacilli. The Widal reaction was negative, and the stool culture was negative for typhoid bacilli.

Nausea and vomiting occurred, and the patient had diarrhea. The abdominal observations apparently remained as on admission. There was a remittent fever, with temperature ranging from 102 to 105 F. The pulse rate was rapid, ranging from 110 to 140. Treatment was supportive. On the eleventh hospital day, the patient became much worse; she died the next day, approximately four weeks after the onset of her illness.

Report of Autopsy.—The gross examination showed the peritoneal cavity to contain a moderate amount of fluid. There was pronounced hyperemia of the small intestine and the colon, especially near the ileocecal junction. The intestines were friable and tore with ease. Loops of the large and small intestine were matted together and also to the parietal peritoneum, but no definite adhesions or exudate could be made out grossly. The lumen of the small and large intestine contained a reddish gray material thought to be blood and bismuth. The mucosa of the ileum and the large intestine was edematous, elevated, hyperemic and raw. No definite ulcerations were present. No perforation was seen. There was no definite involvement of Peyer's patches or the solitary lymph follicles. One single mesenteric node was seen which had become extensively necrotic and exuded a thick creamy yellowish material and which was impossible to section. Strangely, every other mesenteric node appeared only slightly increased in size, if at all, and was otherwise normal in appearance. The spleen did not appear enlarged. The remainder of the gross observations were not contributory except for what appeared to be scattered pneumonia in the bases of the lungs bilaterally. Microscopic examination of the small intestine showed much fibrin on the serosal surface. Intermingled in its meshes were many leukocytes and erythrocytes. The capillaries showed decided congestion. There was slight swelling of Peyer's patches and the solitary lymph follicles, but they were not otherwise involved. The spleen showed the microscopic picture of acute splenic tumor. In the lungs, scattered alveoli contained inflammatory elements, with no involvement of the bronchi. The primary diagnosis was paratyphoid with catarrhal hemorrhagic enteritis, necrotic mesenteric lymphadenitis and generalized peritonitis. The subsidiary disease was lobular pneumonia.

COMMENT

It is difficult to estimate the incidence of peritonitis due to suppuration of mesenteric lymph nodes in typhoid except to say that it is uncommon. In 1,472 cases of typhoid in the case records of the John Gaston Hospital since 1922 our case was the only one recorded. In a recent clinical analysis of 360 cases of typhoid from the Charity Hospital of New Orleans, this complication was not discovered at all either by laparotomy or at postmortem examination.[2]

In the older textbooks,[3] the condition is referred to as being rare. Hare and Beardsley[3c] collected 4 cases, reported by others, of abdominal abscesses in typhoid, presumably due to suppurating mesenteric lymph nodes, but this was not proved in every case. Another 2 cases are mentioned by the same authors in which there was well demonstrated suppuration of mesenteric nodes, but no peritonitis was mentioned. In 1 of the latter cases, there was rupture of a mesenteric artery secondary to a suppurating gland near the cecum. In a review of peritonitis without perforation in typhoid, Yates[4] found in the literature 4 other cases of peritonitis due to rupture of mesenteric lymph nodes.

More recently, 1 case of abdominal abscess[5] and 1 case of peritonitis[6] have been reported as due to suppurating mesenteric lymph nodes. A case of pelvic abscess due to the typhoid bacillus was reported in which this was the suspected cause, but it was not proved.[7]

It may be noted that our preoperative diagnosis was acute peritonitis due to a ruptured typhoid ulcer. It would seem difficult, in the absence of free air under the diaphragm, to make a correct differentiation clinically between these two conditions.

This case is the only one of its kind reported in which streptomycin was used. The gratifying postoperative course may have been partly due to this factor.

The case of paratyphoid with generalized peritonitis associated with a ruptured suppurating mesenteric lymph node was the only case with this complication among 78 cases of paratyphoid from the case records of the John Gaston Hospital since 1922. In some of these instances the paratyphoid infection was concurrent with typhoid. This complication would appear to be at least as uncommon in paratyphoid as in typhoid. The complications of paratyphoid are of the same general character and relative incidence as of typhoid, but are much less frequent.[8]

SUMMARY

A case of acute peritonitis in the course of typhoid, due to suppuration and rupture of mesenteric lymph nodes, is reported. A cure was effected following laparotomy and drainage. Streptomycin therapy was used postoperatively. A case of generalized peritonitis in paratyphoid, with the same cause, diagnosed at postmortem examination, is also reported.

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4. Yates, J. L.: Peritonitis in Typhoid Fever Without Perforation, Am. Med. **5**: 700 (May 2) 1903.

5. Kern, A. G.: Mesenteric Abscess Complicating Typhoid Fever: Case, J. Tennessee M. A. **25**: 260 (July) 1932.

6. Grenet, H.; Leveuf, J.; Isaac-Georges, P., and Langlois, L.: Peritonitis Following Rupture of Suppurating Mesenteric Lymph Node in the Course of Typhoid Fever, Bull. Soc. pédiat. de Paris **35**: 163 (March) 1937.

7. Ransom, M. B., and Dunscombe, W. K.: Pelvic Abscess Caused by Bacterium Typhosum, Lancet **1**: 1398 (June 27) 1931.

8. Jennings, C. G.: The Paratyphoid Infections, in Tice, F.: Practice of Medicine, Hagerstown, Md., W. F. Prior Company, Inc., 1939, vol. 4.

Council on Physical Medicine

The Council's Consultants on Roentgen Rays and Radium and Medical Aspects of Atomic Energy adopted the following article as one of at least two treatises on atomic energy for publication under the auspices of the Council. The Consultants on Roentgen Rays and Radium and the Medical Aspects of Atomic Energy are: Drs. W. Edward Chamberlain, Arthur C. Christie, Kenneth S. Cole, L. F. Curtiss, Edwin C. Ernst, Gioacchino Failla, Hymer L. Friedell, R. R. Newell, Eugene P. Pendergrass, Ursus V. Portmann, Lauriston S. Taylor, Shields Warren, Stafford Warren and J. L. Weatherwax. The Council appreciates the cooperation of the Consultants on Roentgen Rays and Radium and the Medical Aspects of Atomic Energy.

HOWARD A. CARTER, *Secretary.*

RADIATION HYGIENE

Hazards to Physicians, Patients, Nurses and Others from Use of Radioactive Isotopes

W. EDWARD CHAMBERLAIN, M.D.
R. R. NEWELL, M.D., *Chairman*
LAURISTON TAYLOR, Ph.D.
HAROLD WYCKOFF, Ph.D., *Alternate*
Subcommittee

The atomic age confronts the medical profession with seemingly unlimited opportunities, but equally with the gravest responsibilities. To match the eagerness with which he plunges into investigation of the tremendous possibilities of advance in medical knowledge, the physician investigator must possess the keenest awareness of the hazards to himself, his patients and working associates involved in the study and manipulation of radioactive isotopes and other products of atomic fission. Fundamental is the fact that there is no antidote to radiation injury. Prevention and unrelenting watchfulness are the requirements for what may be called radiation hygiene. Even physicians who are not engaged in this research must have knowledge of the technics involved, for they may have patients who have been exposed to radiations.

The successful technics developed in the Manhattan District and continuously improved and elaborated by the agencies of the Atomic Energy Commission are, of course, available and must be learned. Many of the radiation hazards met in making the atom bomb were quantitatively, and some of them qualitatively, quite different from what the physician will meet as an investigator. The problems of these controls were solved by the work of many men—physicians, chemists, biologists—in cooperation. A new specialist appeared, called "health physicist," who had to devise and apply methods of detection of hazard and of protection against it. With the continual development of new production processes and research technics, the experience and resourcefulness of the health physicists are continually called on. Hygiene remains, however, the obligation of the medical profession, and physicians must not shrug off this department of it merely because they find the health physicists' art difficult to follow and their science difficult to understand.

In using radioisotopes for medical purposes, the physician will usually have access to such consultation. It seems predictable that teamwork will always be necessary. The Atomic Energy Commission delivers isotopes only for use under control of an isotope committee, assuring sufficient breadth of scientific understanding. But even if the physician has a physicist on his team, he cannot leave radiation hazard just to him. He must, himself, take the responsibility for the health of his associates and of his patients.

In the National Laboratories, where radioisotopes are being used, avoidance of radiation has become a way of life. Radioactive materials are transported by special truck in special 200 pound lead pots and put in and taken out under the chaperonage of some one from the health physics department, who constantly measures the gamma ray intensities and keeps a critical eye on the "technic." Similar chaperonage is provided whenever a scientist does a distillation or other manipulation of an important amount of radioactive substance. At regular intervals, twice a week or twice a day, the health physicist goes through the various rooms and passages hunting with a Geiger counter for radioactive contamination on floors and benches, and sampling the atmosphere for radioactive dust. Working in small teams and lacking a "health physicist," doctors are going to have to do these things for themselves. If they are casual about it, as many have been in the handling of radium, the result will be disaster for all concerned.

Radiation hazard can be put into several classes:

A. External irradiation, beta rays and gamma rays (also roentgen rays)
   1. Injury to patient
   2. Injury to physician and others
   3. Injury to casual personnel
   4. Contamination of laboratories interfering with measurements
   5. Fogging of photographic materials

   (4 and 5 do not, of course, concern hygiene)

B. Internal irradiation, alpha, beta and gamma
   1. Overdosage, general
   2. Bad distribution leading to local overdose
   3. Pick-up of isotopes by physician and others (*a*) Inhalation, (*b*) ingestion, (*c*) absorption through unbroken skin and (*d*) through cuts or abrasions
   4. Escape of radioactive materials from control with later pick-up by men, animals or plants

External irradiation from isotopes will seldom endanger the patient, who is usually only briefly exposed; the danger is to the doctor and his associates, who are working with these things all the time. The patients' hazards will arise mostly from errors of judgment or blunders in technic: Doctors make errors in dosage of drugs, too, and sometimes need to administer the antidote. Here it must be repeated that there is no antidote to radiation injury.

With isotopes, doctors are using a novel set of units. A millicurie means 37,000,000 disintegrations per second, an amount in milligrams running from about 16 for plutonium to a millionth for radiosodium. The biologic significance of a millicurie varies with the type and energy of the disintegration and the distribution of the isotope in or on the body. It is at least possible that some doctors will make the superficial but erroneous assumption that they know what a millicurie is because they have used millicurie radon implants.

The great hope for the future of isotopes in therapy is the ability of some of them to concentrate in an organ or tissue. This is at the same time a great hazard, for precise dosage depends on precise estimate of how large a volume of tissue will be holding the dose given, when it has become thus concentrated. The

effect depends not on the total dose, but on its specific concentration in the susceptible organ. In fact, for alpha emitters and soft beta emitters, account must be taken of uneven distribution within the organ or within the cell, and one must think of dose in disintegrations per cubic micron.

The millicurie is a disintegration rate, and so the biologic dose depends on how long the irradiation lasts. The millicurie dose falls away according to the half-life of the isotope and also by excretory losses from the body. In all these things there is much room for errors in calculation and in judgment, even gross blunders.

Radium, plutonium and radiostrontium are carcinogenic, having long physical half-lives and lie locked up in the bones with very slow excretion. Two micro-

Hazard from Radioactive Isotopes

	Alpha	Beta	Gamma
Proximity Total Body		Doctor, chemist E. g., P, I, Na, Au	Everybody E. g., Ra, I, Co, Na, As, Au
Proximity Hands		Doctor, chemist, etc. E. g., Ra, Na, P, [illegible], Na, I, I, As, C, S, Yt, Au	As, Au
Surface contamination, especially hands	Generally assumed not effective on skin surface	Doctor, chemist, etc. Beta irradiation dominates gamma; E. g., Ra, P, Na, I, C, S, Sr, Yt, Au	
Inhalation	Everybody in the laboratories. Lethal dose of alpha is small E. g., Ra, Rn, Pu, Po	Beta irradiation dominates gamma; some (e. g., rare earths) which are relatively less dangerous when ingested are yet fairly readily absorbed through the lungs	
Ingestion	Everybody; doctors and assistants most likely. E. g., Ra, Rn, Pu, Po, etc., even though poorly absorbed	Contaminated wastes may spread hazard far and wide E. g., P, Na, I, C, S, Sr	
Parenteral absorption, wounds, etc.	Doctor and assistants E. g., Pu	Doctor and assistants But unimportant compared to surface contamination	
Percutaneous absorption	Doctor, chemist, etc. Any radioactive isotope in fatty base or in fat solvent		
Bad clinical judgment	Patients and experimental subjects a. By overdosing, total body dose; e. g., P, Na b. Though failure to consider large total accumulation of injury due to isotope's long half-life; e. g., 4 yr. Fe, 4,000 yr. C, etc., and confusion of 8 day I with 12 hr. I c. By erroneous estimation of the concentration in a particular organ; e. g., I, Sr, P		

curies of radium (being radium, this is 2 micrograms), can kill in seven years, a quantity which for many other elements would rightly be considered a harmless tracer dose.

Gamma rays from isotopes in use and in storage physicians already know how to avoid, for they have years of experience with radium. (It is true that many doctors have destroyed their fingers by careless handling of radium.) But the fact of familiarity with radium would tend to make physicians careless with the other things, for all have learned to take 50 mg. of radium rather casually. But they have not been giving injections or determining test tube reactions with radium. With radium, one fears lest one lose it. With radioisotopes, one ought to fear lest one spill it. One leaves gamma rays behind when one quits the room. When a beta ray emitter is spilled on the fingers the operator carries with him what he cannot wash off. Moreover, beta rays, being highly absorbable, are biologically extremely effective. So even a small millicurie amount gives a large dose by the time that the contaminated cuticle has worn away.

In the chemical laboratory dirty glassware is washed and used again, and spent chemicals are dumped down the drain. Dead animals are carried to the dump or incinerator. Urine and feces go down the sewer. In the isotope laboratory, however, all these may be radioactive. It is a heavy responsibility to see that nothing "hot" is reused and that no dangerous quantities of radioactivity find their way into the sewer, or to an open incinerator or dump. Algae especially, but also higher plants, are capable of reconcentrating some elements which have been diluted and spread on the fields, so that mere dilution cannot be depended on for safety. Wet and dry radioactive wastes have to be collected and isolated, maybe by deep burial.

Many physicians are avid to put radioisotopes to work for medicine, to proceed as fast as possible to apply them to clinical problems and therapeutic arts. Are we physicians going to be able—as a profession—to proceed at equal speed in learning the art of protecting our patients, ourselves, our associates and the communities we live in from the grave and insidious dangers of these very poisonous substances? This paper is intended to point out the dangers and to make some suggestions for avoiding them.

The accompanying table is offered as a graphic summary of the hazards that have been discussed.

The Council on Physical Medicine has authorized publication of the following reports. HOWARD A. CARTER, *Secretary.*

RAUH SURFACE PYROMETER ACCEPTABLE

Manufacturer: E. M. Rauh & Co., Inc., 2 Parker Avenue, Buffalo 14, N. Y.

The Rauh Surface Pyrometer is a device for making rapid surveys of the skin temperature of the human body. The apparatus is enclosed in a mahogany-finished case measuring 20 by 20 by 20 cm. (17¾ inches). The whole weighs 2.3 Kg.; the shipping weight for domestic shipment is about 2.7 Kg., and for foreign shipment about 7.3 Kg. (5, 6 and 16 pounds respectively). The standard model operates on two dry cells needed to supply the light source; models for operation on direct or alternating current are also available.

Rauh Surface Pyrometer.

The sensing element is at the end of an applicator which is connected by a cable to the instrument in the case. This element is a thermopile of small mass, since the smaller the mass to be warmed (or cooled) by the contact with the skin, the quicker and more accurate will be the reading. The current from the thermopile is recorded by a mirror suspended in such a way as to reflect light on a transparent scale; the latter can be read in either Centigrade or Fahrenheit within the range from 15.5 to 43 C. (60 to 110 F.).

The instrument has been examined in the Council laboratory, and evidence of its performance under clinical conditions has been obtained from sources acceptable to the Council. Temperature measurements taken with this instrument must be interpreted, because they are affected by all the variables known to influence skin temperatures. However, the instrument is of value, for instance, in making rapid surveys of the surface temperatures of symmetric areas of two extremities, where circumstances give a basis of comparison. The data are of use in cases of peripheral vascular disease and may help in the differential diagnosis between organic vascular occlusions and fluctuations of vasomotor tone.

The Council on Physical Medicine voted to include the Rauh Surface Pyrometer in its list of accepted devices.

SANBORN INSTOMATIC CARDIETTE ACCEPTABLE

Manufacturer: Sanborn Company, 39 Osborn Street, Cambridge 39, Mass.

The Sanborn Instomatic Cardiette is a portable electrocardiograph weighing 10.4 Kg. (23 pounds). In the recording mechanism a beam of light is cast onto a strip of sensitized paper 5.75 cm. (2¼ inches) wide. The galvanometer deflection is indicated by a shadowed line moving across the paper. This results in a white line 2 mm. wide against a dark background on the developed photographic record. Narrow white lines also mark the strip into 1 mm. squares, every fifth one of which is slightly wider. A 30 meter (100 foot) roll of sensitized paper is contained in a removable magazine equipped with a red window to permit examination of the paper supply. A slot, with hinged cover, allows marking on the back of the record.

The paper is pulled past the recording point and into a removable light tight container which makes it possible to take the exposed record to the dark room. Removing this container from the machine automatically cuts the film. To prevent losing the end of a record, it is necessary to allow an extra few inches to pass into the container before removing from the machine.

The paper drive is by means of a hand wound spring motor which will run for four minutes (610 cm. or 20 feet of record) on one winding. The speed is adjustable if correction becomes necessary. A rewind indicator and film footage indicator are provided on the panel.

The apparatus submitted was subjected to the tests called for by the Minimum Requirements for Acceptable Electrocardiographs published by the Council on Physical Medicine in THE JOURNAL (134: 455 [May 31] 1947). It was found to satisfy these requirements.

The Council on Physical Medicine voted to include the Sanborn Instomatic Cardiette in its list of accepted devices.

PURITAN 11-GA OXYGEN INHALATION APPARATUS ACCEPTABLE

Manufacturer: Puritan Compressed Gas Corp., 1240 W. Jackson Blvd., Chicago 7.

This portable assembly consists of a safety pressure-reducing regulator equipped with a flow gage calibrated in liters per minute; a humidifying assembly, which is to be attached to the back of the regulator by a removable clamp; two bottles fitted with two-hole stoppers and four metal tubes, one having a gas spray attachment; and three pieces of pure gum tubing. Also included in this unit is a cylinder base designed to prevent possible tipping when placed on the bottom of either D or E size cylinders. A wrench is enclosed for operating the cylinder valve. If it is desired to use a nasal catheter for administration of oxygen, the catheter may be attached to the pure gum tubing in place of the face cone.

The Council on Physical Medicine voted to include the Puritan 11-GA Oxygen Inhalation Apparatus in its list of accepted devices.

COLLINS METABOLEX ACCEPTABLE

Manufacturer: Warren E. Collins, Inc., 555 Huntington Avenue, Boston 15, Mass.

The Collins Metabolex is an apparatus designed for use in determining basal metabolic rates. It is mounted on a three-legged stand provided with casters; the stand bears, underneath, the oxygen tank needed for filling the spirometer which is on top. The spirometer is of the accordion or bellows type, but has the general form of a circular cylinder and moves vertically. Tracings are made on an aluminum drum driven either by spring movement or by electric motor (optional). If the spring movement is used, no electric connections are necessary. If the electric clock is used, a 110 volt controlled-frequency alternating current is requisite.

With the stand, the apparatus is 126 cm. (49½ inches) high and weighs 16 Kg. (35 pounds). Without the stand, it is 51 cm. (20 inches) high and weighs 11.3 Kg. (25 pounds). The floor space required is 51 by 61 cm. (20 by 24 inches). The reservoir for soda lime has a capacity of 3.8 liters (4 quarts). The oxygen tank provided for is the 300 liter (80 gallon) size. The shipping weight of the apparatus alone is 17 Kg. (37½ pounds); that of the stand is 9.5 Kg. (21 pounds).

The apparatus, on examination, was found to be simple and attractive in design, and to give satisfactory results in the hands of experienced users.

The Council on Physical Medicine voted to include the Collins Metabolex in its list of accepted devices.

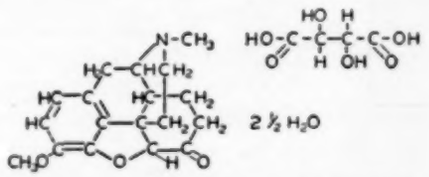
Council on Pharmacy and Chemistry

NEW AND NONOFFICIAL REMEDIES

The following additional articles have been accepted as conforming to the rules of the Council on Pharmacy and Chemistry of the American Medical Association for admission to New and Nonofficial Remedies. A copy of the rules on which the Council bases its action will be sent on application.

AUSTIN SMITH, M.D., *Secretary.*

DIHYDROCODEINONE BITARTRATE.—Hycodan Bitartrate-Endo.—The hydrated bitartrate of dihydrocodeine. $C_{18}H_{21}O_2N \cdot C_4H_6O_6 \cdot 2\frac{1}{2}H_2O$.—M. W. 494.26.—The structural formula of dihydrocodeinone bitartrate may be represented as follows:



Actions and Uses.—Dihydrocodeinone bitartrate is essentially similar in action to codeine salts but is more active when compared with codeine on a weight basis and is also more addicting. It is useful primarily as an antitussive and may be used for this purpose in the same manner as codeine, over which it has no clearcut advantage.

Dosage.—Adults, 5 to 15 mg., 3 or 4 times within a 24 hour period. The higher dosage is rarely necessary. Children 2 years of age or older may be given one-half the adult dose; younger children one-quarter the adult dose.

Tests and Standards.—

Dihydrocodeinone bitartrate occurs as a white, odorless, crystalline powder. It is freely soluble in water and slightly soluble in alcohol.

Dissolve about 100 mg. of dihydrocodeinone bitartrate in 1 cc. of water, add 3 drops of ammonia T. S. to precipitate the free base and allow the mixture to stand for 1 hour. Collect the precipitate on a small suction filter (retain the filtrate), wash it with 1 cc. of cold water and remove the excess water by suction. Dry the precipitated dihydrocodeinone for 2 hours at 100 C.; it melts at 194-196 C.

To the filtrate obtained after separation of the free base, add sufficient silver nitrate T. S. to produce a cloudy solution; then add just sufficient ammonia T. S. to render the solution clear, and warm the mixture on a steam bath: a deposit of metallic silver on the walls of the test tube indicates the presence of tartrates.

To about 3 mg. of dihydrocodeinone bitartrate dissolved in 0.1 cc. of water, add 5 cc. of sulfuric acid containing 5 mg. of selenious acid per cc.: the mixture yields a green color which changes to blue and then slowly to purple *(distinction from morphine, which yields a blue color changing to green and then to brown).*

Dissolve about 20 mg. of dihydrocodeinone bitartrate in 5 cc. of sulfuric acid, add 1 drop of ferric chloride T. S. and warm in a steam bath: the solution does not change in color when heated *(distinction from codeine, which gives a purple color).*

Dissolve about 100 mg. of dihydrocodeinone bitartrate and 200 mg. of hydroxylamine hydrochloride in 1 cc. of water. Cover with a watch glass and heat on a steam bath for one-half hour. Cool in ice water and add strong ammonia solution until the oxime precipitates. Collect the oxime on a filter, wash with 3 cc. of water containing 1 per cent ammonia (made by diluting 1 cc. ammonia T. S. to 10 cc.), remove the excess water by suction and dry the precipitate for 4 hours at 100 C.: the dihydrocodeinone oxime melts with decomposition between 264 and 268 C.

Prepare a one-tenth molar solution of dihydrocodeinone bitartrate in freshly boiled and cooled distilled water: the pH of the solution is between 3 and 4. Ignite about 200 mg. of dihydrocodeinone bitartrate, accurately weighed; the ash residue is not more than 0.05 per cent. Add about 100 mg. of dihydrocodeinone bitartrate to 5 cc. of sodium hydroxide T. S. and heat the mixture to boiling: no odor of ammonia is detected.

Transfer about 150 mg. of dihydrocodeinone bitartrate, accurately weighed, to a 250 cc. separator with the aid of 10 cc. of water. Drop a small piece of red litmus paper into the funnel and then add,

dropwise, ammonia T. S. until the litmus paper just turns blue (about 3 drops). Extract six times with 25, 25, 20, 20, 15 and 15 cc. portions of chloroform, and collect the chloroform extracts in a 250 cc. Erlenmeyer flask after filtering through a small plug of cotton. Evaporate the combined chloroform extract almost to dryness, remove the flask from the steam bath, blowing off the remainder of the chloroform with a stream of air. Add 5 cc. of neutral alcohol and heat on a steam bath until the residue dissolves. Add 2 drops of methyl red indicator T. S. and then 20 cc. of 0.02 *N* sulfuric acid. Heat on a steam bath until the alcohol starts to reflux. Cool the flask to room temperature and titrate the excess acid with 0.02 *N* sodium hydroxide. Each cc. of 0.02 *N* sulfuric acid consumed is equivalent to 0.009884 Gm. of dihydrocodeinone bitartrate: the amount of dihydrocodeinone bitartrate found is not less than 98 per cent of the sample as received.

ENDO PRODUCTS, INC., RICHMOND HILL, N. Y.

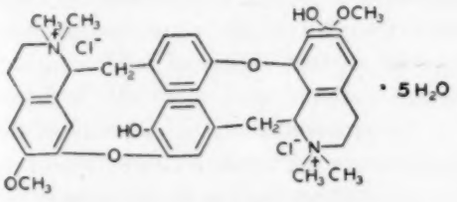
Hycodan Bitartrate *(Powder)*: 1 Gm., 5 Gm. and 10 Gm. bottles.

Syrup Hycodan Bitartrate: 5 mg. per 5 cc., 475 cc. and 3.74 liter bottles.

Tablets Hycodan Bitartrate: 5 mg.

U. S. trademark 399,421.

***d*-TUBOCURARINE CHLORIDE.** — The crystalline chloride of a quaternary base alkaloid obtainable from the bark and stems of *Chondodendron tomentosum* and related species.—$C_{38}H_{44}Cl_2N_2O_6 \cdot 5H_2O$.—M. W. 785.74. *d*-Tubocurarine chloride is standardized biologically by the rabbit "head-drop" method. The standard "head-drop" dose, HD_{50}, calculated as *d*-tubocurarine chloride pentahydrate, is 0.15 mg. per kilogram of body weight. The structural formula of *d*-tubocurarine chloride may be represented as follows:



Actions and Uses.—*d*-tubocurarine chloride may be used in conditions in which it is desirable to reduce the tone or contractile power of skeletal muscle. It is useful with light general anesthesia to obtain greater relaxation of the musculature in abdominal surgery and orthopedic manipulative procedures, to diminish the violence of muscular contractions during metrazol or electric shock therapy, and temporarily to lessen spasticity due to injury of the central nervous system or in certain spastic states of neurologic origin. It may also be used as a diagnostic agent in cases suspected to be affected with myasthenia gravis.

Dosage.—In conjunction with light surgical or orthopedic anesthesia, premedication should be carried out as usual. The following doses are applicable with general anesthetics *except ether, when only one-third of the recommended dose should be employed*. The patient is maintained at light surgical anesthesia until the stage of the operation is reached at which the greatest muscular relaxation is required. At that time 6 to 15 mg. may be given as a single intravenous injection. This is sometimes effective in about 2 minutes; if respiration ceases, the anesthetist must be prepared to continue the pulmonary exchange by pressure on the bag of the anesthetic apparatus. The dose may be calculated on the basis of 1 mg. for each 10 lb. of body weight (*one-third this amount when ether is the anesthetic*).

In therapeutic shock treatment, the usual dose is 3 mg. for each 40 lbs. of body weight; for greater safety 3 mg. less than the calculated amount should be used as the initial dose and the intravenous injection should always be given over a period of not less than 90 seconds. In spastic states, where the drug is used to permit training in the voluntary use of muscles, it may be administered intramuscularly at four day intervals. The dose is determined by trial, beginning with 3 mg. for each 40 lbs. of body weight and gradually increasing the dose until the amount producing best results is found. As a diagnostic test for myasthenia gravis, 0.3 mg. per 40 lbs. of body weight is given intravenously; marked exaggeration of symptoms appears within two minutes. As soon as a positive reaction is confirmed, the curare effect should be antagonized immediately by the intravenous injection of 1 cc. of neostigmine methylsulfate, 1:2,000 combined with 0.6 mg. of atropine sulfate. The former drug should always be on hand to combat respiratory failure during the use of curare.

Solutions of *d*-tubocurarine chloride used in conjunction with pentothal sodium intravenous anesthesia may be admixed with a solution of pentothal sodium for simultaneous administration of both agents. Solutions of *d*-tubocurarine chloride are available in concentrations of 3 mg. (20 units) per cubic centimeter and 15 mg. (100 units) per cubic centimeter. The acidity of these solutions causes only momentary precipitation of curare-barbiturate mixtures when added in amounts to avoid undue dilution of the pentothal sodium solution: limit for solution *d*-tubocurarine of 3 mg. (20 units) per cc., is 7.5 units per 25 mg. pentothal sodium in 1 cc.; for solution *d*-tubocurarine of 15 mg. (100 units) per cc., 10 units per 25 mg. pentothal sodium in 1 cc. Optimal results for most operative procedures have been obtained by using 5 units of the higher potency *d*-tubocurarine solution per each 1 cc. of a 2.5 per cent solution of pentothal sodium. This mixture is made up by adding 1 cc. of high potency (100 units per cc.) solution of *d*-tubocurarine chloride to 19 cc. of 2.5 per cent solution of pentothal sodium and when so made from the high potency *d*-tubocurarine chloride solution will keep for about 10 days. It is administered in the same manner as pentothal sodium alone, with slow induction, 1 or 2 cc. at a time. The average total dose of the mixture varies from 15 to 20 cc. Other ratios and technics may be worked out to advantage in individual cases. *The high potency solution of d-tubocurarine chloride, 15 mg. (100 units) per cc., should never be injected without dilution because of the danger of overdosage by too rapid administration.* *d*-Tubocurarine chloride-barbiturate combination anesthesia is contraindicated in patients with respiratory deficiencies, pulmonary disorders, renal dysfunction, liver disease and myasthenia gravis.

Tests and Standards.—

d-Tubocurarine chloride occurs as a colorless or yellowish-white to gray or light brown, odorless, crystalline powder. It is soluble in water, slightly soluble in alcohol, and practically insoluble in chloroform and ether. When previously dried at 100° C. for 4 hours, it melts with decomposition somewhere between 265° and 278° C. provided the melting point tube is placed in a bath preheated to 260° C.

Prepare a stock solution of 0.1 Gm. of *d*-tubocurarine chloride in 10 cc. of water: it is colorless or yellowish and free of insoluble material. Dilute 1 cc. of the stock solution to 100 cc. with water and to 2 cc. of this solution add 3 cc. of Folin-Ciocalteu phenol reagent (*Official and Tentative Methods of Analysis of the Association of Official Agricultural Chemists*, ed. 6, p. 319), previously diluted (1:3) with water, and adjust the volume to 25 cc. with water. Add 2 cc. of 20 per cent sodium carbonate solution, mix, and heat the mixture for 3 minutes in a boiling water bath: a brilliant blue color develops.

Dilute 0.5 cc. of the stock solution with 10 cc. of water, add 0.2 cc. of sulfuric acid and 2 cc. of a 1 per cent potassium iodate solution, mix thoroughly and warm in a water bath for 30 minutes: a yellow color develops.

To 1 cc. of the stock solution add 1 cc. of a 4 per cent Reinecke's salt solution: a pink precipitate results. To 1 cc. of the solution add 1 cc. of saturated picric acid solution: a yellow precipitate results. To 1 cc. of the stock solution add 1 cc. of silver nitrate T.S.: a white precipitate forms, soluble in ammonia T.S.

Dry about 0.1 Gm. of *d*-tubocurarine chloride, accurately weighed, in a tared weighing bottle at 100° C. for 4 hours: the loss in weight does not exceed 11.5 per cent.

Transfer 0.2 Gm. of *d*-tubocurarine chloride, accurately weighed, to a separatory funnel containing 200 cc. of water. Add 5 cc. of saturated sodium bicarbonate solution and extract with three 20 cc. portions of chloroform. Wash the combined chloroform extracts with 10 cc. of water, filter through a pledget of cotton into a tared beaker, evaporate and dry at 100° C. for 1 hour: the weight of the residue does not exceed 3 per cent calculated on the dry basis. The residue is insoluble in water, but soluble in diluted hydrochloric acid.

Transfer about 0.15 Gm. of *d*-tubocurarine chloride, accurately weighed, to a 100 cc. Erlenmeyer flask and add 10 cc. of water, 5 cc. of diluted nitric acid and exactly 25 cc. of fiftieth-normal silver nitrate. Add 5 cc. of nitrobenzene and swirl the contents of the flask to entrap the precipitate. Add 2 cc. of ferric ammonium sulfate T.S. and titrate the excess silver nitrate with fiftieth-normal ammonium thiocyanate. Each cc. of fiftieth-normal silver nitrate is equivalent to 0.000709 Gm. of chlorine: the chlorine content found is not less than 9.5 nor more than 10.2 per cent, calculated to the dried substance.

Transfer about 0.1 Gm. of *d*-tubocurarine chloride, accurately weighed, to a 10 cc. calibrated flask, dissolve the salt and make up to volume with water. Let the solution stand for 3 hours and determine the optical rotation in a 100 mm. polarimeter tube: the specific rotation, $[\alpha]25/D$, calculated from the observed rotation and the concentration (expressed in grams of dried *d*-tubocurarine chloride per 100 cc. of solution) is not less than + 208 degrees nor more than + 217 degrees. (The most probable value of the specific rotation for pure anhydrous *d*-tubocurarine chloride is + 215°.)

The potency of *d*-tubocurarine chloride is determined by observation of the "head-drop" response following intravenous injection of the drug in rabbits. (For assay methods see H. A. Holaday, U. S. Patent 2,397,417; R. F. Varney, C. K. Linegar and H. A. Holaday, *Federation Proc.*, **7**, Part 1: 261 (March) 1948; and G. M. Everett, *J. Pharmacol. & Exper. Therap.* **92**: 236 (March) 1948.)

ABBOTT LABORATORIES, NORTH CHICAGO, ILL.

Solution *d*-Tubocurarine Chloride: 3 mg. per cc., 10 cc. vials. Preserved with benzyl alcohol 0.9 per cent.

E. R. SQUIBB & SONS, NEW YORK

Solution *d*-Tubocurarine Chloride: 3 mg. (20 units) per cc., 10 cc. vials.

Solution *d*-Tubocurarine Chloride (High Potency): 15 mg. (100 units) per cc., 1 cc. ampuls.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

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SATURDAY, NOVEMBER 13, 1948

THE D. P. DOCTOR

Recently the press, at least in the Midwest, has been agitated by the fact that a Wisconsin community arranged for the arrival and entrance into practice of a physician from abroad who had lost contact with his motherland, and then discovered that he could not qualify for licensure. Several newspapers wanted to make an issue of the situation. Reporters exhibited great distress when they discovered that a doctor cannot practice medicine in the United States without a license from the state in which he wishes to practice. The laws regulating medical licensure were not adopted for the protection of the medical profession but for the protection of the American people against unqualified and incompetent doctors. The laws of the various states differ. Some states require full citizenship; others require first papers; some require a year of internship in a hospital within the state; many of them demand fully accredited credentials which physicians from foreign countries frequently do not have.

The medical schools of many of the foreign countries have been in a deplorable state since the beginning of the Nazi invasions. The medical schools of Germany are today in a deplorable state, as are those of many other European countries. Recently Dr. Irving S. Wright [1] reported on a study of the schools of Europe. One of the chief difficulties has been the attempt of the schools to take on more students than they could teach properly, since they suffer from a lack of teaching personnel and equipment. The Editor of The Journal visited the displaced persons camp at Altersheim in a recent trip to Europe and while there conferred with a mission which was endeavoring to bring the D. P. physicians up to date in medical matters. One must realize that Europe was completely shut off from scientific information developing elsewhere in the world during at least the years 1939 to 1944. Foreign doctors knew nothing whatever of the development of antibiotic drugs, of new methods of anesthesia and of many other new medical technics which had been developed elsewhere. Estimates indicate that there are about 2,000 physicians in D. P. camps. It is unlikely that more than a few of these will eventually come to the United States. Many of them will accompany the people with whom they fled from their own countries. Most of them had such a difficult time keeping alive during their flight that they had little opportunity to keep abreast of medical knowledge. The younger physicians graduated from medical schools which have had a serious time trying to survive since 1933.

The International Refugee Organization established in 1948 a special board to register the medical credentials of displaced and refugee physicians and other medical personnel. The International Refugee Organization is issuing to each person registered a certificate stating the particulars of his medical qualifications. They report that there are now in the United States zone of Germany 1,461 registered refugee physicians, of whom 901 are general practitioners. These physicians come from all of the countries of Europe, and they represent a great variety of religious groups. The majority are Catholic, and about 300 are Jewish. It should be remembered that the majority of the Jewish physicians went to the German concentration camps and were destroyed either by gas or by some other technic commonly referred to in connection with Russian activities as being "liquidated."

The difficulties which confront a foreign physician in securing opportunity to practice in the United States are far less rigorous than those confronting physicians from the United States who might wish to practice abroad. There are few physicians from the United States practicing in Great Britain, and the difficulties in France are even greater. The Latin American countries practically forbid practice by a physician from the United States, making the conditions so severe that few physicians from the United States would wish to attempt to qualify. The methods of medical education that prevail in most other countries are quite different from those in the United States.

The state medical licensing boards have considered the cases of D. P. physicians with the utmost sympathy and liberality. Many of them have been given opportunity to take examinations three, four or more times, and in one instance a physician took the examination ten times before he finally passed. He had spent the intervening time in study and was thereby a better physician.

Ultimately, under the auspices of the World Medical Association or of the United Nations, some conference may be held to consider the varying qualifications demanded of a physician in different countries with a view toward greater standardization of medical education and licensure.

1. Wright, I. S.: Medical Education in Germany and Austria, J. A. M. A. **137**: 5 (May 1) 1948.

CANCER OF THE LUNG IN CHROMATE WORKERS

The alarming rise in the incidence of cancer of the lung during the last three decades in many countries advanced death from this tumor into second place on the cancer mortality list for males. The majority of investigators found that occupational factors did not play any demonstrable part in pulmonary cancers and could not account for the increase. However, such conclusions were drawn as a rule from the data in patients' histories, and were, therefore, of little scientific value. Specific occupational exposures responsible for industrial cancers are usually sustained some three to thirty years previous to the manifestation of the cancer and for this reason usually appear to be without relation to the occupational information of the general type recorded in patients' histories and death certificates. The recent report by Machle and Gregorius [1] on cancer of the lung among workers in seven American chromate plants provides definite evidence of the occupational origin of these tumors. The epidemiologic study of deaths from pulmonary cancer among workers in the major factories of chromates showed that in a total of 193 deaths from all causes there were 66 deaths from cancer of all sites and 42 deaths from pulmonary cancer (21.8 per cent of all deaths). In addition to an excessive total cancer death rate in this occupational group, the pulmonary cancer ratio was 16 times the expected ratio of 1.3 per cent. The individual ratios of pulmonary cancer in the various plants ranged from 13 to 31 times the normal, while the crude death rate for this type of tumor was 25 times the normal, the range of excess for the different plants being from eighteen to fifty fold. This evidence confirms previous reports from German chromate factories [2] and implicates chromates as carcinogenic agents. Although Machle and Gregorious stated that, according to their observations, chromic acid and basic chromium sulfate are apparently noncarcinogenic, a fact of considerable importance from the point of view of hazard to users of bichromates and chromic acid, this claim lacks adequate proof from thorough investigation of industries and workshops handling these chemicals. In present circumstances these chemicals must be considered as potentially carcinogenic.

Other occupational activities also carry an increased liability to cancer of the lungs and nasal sinuses. The inhalation of hot tar fumes by stokers in generator plants, of radioactive dust and gases by miners handling radioactive ores and of asbestos dust in various asbestos industries has resulted in an excessive incidence of pulmonary cancer among members of these occupations, while workers of nickel-copper refineries have a special liability to cancer of the nasal sinuses and of the lungs. Doubtless, other industrially important agents possess similar properties, although this fact has not yet been recognized or recorded. Fluctuations of the incidence of pulmonary cancer between different regions and during various periods probably are in part attributable to differences in the quantitative and qualitative aspects of the environmental carcinogenic spectrum. A fuller knowledge of the epidemiology and etiology of cancer of the respiratory organs depends on a more extensive and thorough analysis of the occupational activities and other environmental factors of patients with cancer of the lung.

1. Machle, W., and Gregorius, F.: Cancer of the Respiratory System in the United States Chromate-Producing Industry, Pub. Health Rep. **63**: 1114, 1948.
2. Hueper, W. C.: Occupational Tumors and Allied Diseases, Springfield, Ill., Charles C Thomas, Publisher, 1942.

TUBERCULIN ALLERGY

In 1942 Landsteiner [1] challenged conventional theories of anaphylaxis by demonstration that acquired skin sensitivity to simple chemical compounds is not dependent on circulating antibodies. Such sensitivity was apparently due to specific acquired biologic deficiencies or abnormalities of tissue cells. Guinea pigs were rendered specifically hypersensitive to picryl chloride by injection of picryl chloride–stroma conjugates. When a drop of an oil solution of picryl chloride was subsequently put on the skin, intense erythematous reactions were noted. A passive transfer of this skin sensitivity was impossible by serum transfer but was found possible by intraperitoneal or intravenous injection of peritoneal exudate. The transfer was not due to the clarified fluid in this exudate, but to its cellular elements. Similar cytologic transfer of acquired skin sensitivity was subsequently demonstrated with other simple chemical compounds.

Clinical interest in the Landsteiner cytogenic allergy was increased by the subsequent demonstration that the same type of cellular transfer is possible in hypersensitivity to tuberculin. Chase,[2] of the Rockefeller Institute, rendered albino guinea pigs hypersensitive to tuberculin by subcutaneous injections with heat-killed human tubercle bacilli suspended in liquid petrolatum. Between five and nine weeks later the cutaneous reactivity to tuberculin was pronounced. Exudates were induced in these animals by an intraperitoneal injection of 28 cc. of liquid petrolatum. Forty-eight hours later the peritoneal cavities were washed out with heparized Tyrode solution containing gelatin or normal guinea pig serum.

The washings were combined and cells recovered from the aqueous layer by minimal centrifugation. The sedimented cells were repeatedly washed with Tyrode's solution plus a tenth volume of normal guinea pig serum. The yield of cells amounted to 0.1 to 0.15 cc. per donor. The sediment was composed of 15 to 30 per cent polymorphonuclear leukocytes, 20 to 35 per cent lymphocytes and 50 to 65 per cent large mononuclear cells.

The combined cells from 2 to 10 donors were immediately injected intraperitoneally or intravenously into normal albino guinea pigs. The animals were then

1. Landsteiner, K., and Chase, M. W.: Proc. Soc. Exper. Biol. & Med. **59**: 688, 1942.
2. Chase, M. W.: Proc. Soc. Exper. Biol. & Med. **59**: 134, 1945.

given periodic skin tests with old tuberculin. After a latent period of two to three days following intraperitoneal injection, or twenty to thirty-six hours after intravenous injection, tuberculin skin reactions were noted. The sensitivity increased to a maximum by the end of seventy-two to ninety-six hours, at which time the routine skin test led to a diffuse indurated reaction about 16 mm. in diameter with a white center 9 mm. in diameter and a 4 mm. brownish necrotic central zone. After the fifth day, control animals exhibited active sensitization to the tuberculin preparation used in the periodic tests, largely a sensitivity to the broth medium. The tests were discontinued at this time.

In addition to the exudate cells from the peritoneal cavity, cells from the spleen or lymph nodes were found capable of transferring tuberculin hypersensitivity. The cells become largely or entirely inactive on being heated to 48 C. for fifteen minutes, or after twenty-four hours' storage in the ice box.

This reported cytologic transfer of tuberculin hypersensitivity has been adequately confirmed by Cummings [3] and his associates, and studied in greater detail by Stravitsky [4] of the California Institue of Technology. Stravitsky found that a similar transfer of acquired tuberculin hypersensitivity was possible by a massive transfer of whole blood from tuberculous guinea pigs. He expressed the opinion that circulating lymphocytes in this whole blood were responsible for this transfer. Attempts to transfer sensitivity by means of various crude extracts of tuberculous lymphocytes, peritoneal exudates, lymph nodes or spleen, however, gave negative results.

It has been shown by Moen,[5] Favour [6] and others that lymphocytes from tuberculous mice and guinea pigs are rapidly lysed (or autolysed) on contact with a small amount of tuberculin. That the same type of lysis (or autolysis) is demonstrable with human leukocytes was subsequently shown by Fremont-Smith [7] of Harvard Medical School. White cells were obtained by fractional centrifugation of heparized human blood. Experiments were performed on the leukocytes from three groups of subjects: (*a*) tuberculin-positive patients with bacteriologically proved active, severe tuberculosis, (*b*) subjects with positive skin reactions but no demonstrable clinical tuberculosis and (*c*) healthy persons with negative tuberculin skin reactions.

Cytolysis was demonstrated by adding 0.2 cc. of the white cell suspension (7,000 to 15,000 per cubic centimeter) in fresh human serum to 0.2 cc. of fresh normal human serum containing 25 micrograms of tuberculoprotein per cubic centimeter. The resulting mixture was immediately immersed in a water bath at 37 C. Total and differential cell counts were made at stated intervals. These counts showed that with leukocytes from patients with active severe tuberculosis there was as much as a 60 per cent specific destruction of the lymphocytes and a 90 per cent destruction of neutrophil leukocytes by the end of ninety minutes.

Control tests with white cells from healthy tuberculin-positive or tuberculin-negative subjects elicited negative reactions. Parellel tests with leukocytes suspended in heated normal human serum were also negative in result. This was interpreted by the Harvard investigator as evidence that serum complement plays a role in tuberculin cytolysis. The mechanism of this lysis and of the cytogenic transfer of tuberculin hypersensitivity was otherwise not determined.

3. Cummings, M. M.; Hoyt, M., and Gottshall, R. Y.: Pub. Health Rep. **62**: 994, 1947.
4. Stravitsky, A. B.: Proc. Soc. Exper. Biol. & Med. **67**: 225, 1948.
5. Moen, J. K., and Swift, H. K.: J. Exper. Med. **64**: 339, 1936.
6. Favour, C. B.: Proc. Soc. Exper. Biol. & Med. **65**: 269, 1947.
7. Fremont-Smith, P., and Favour, C. B.: Proc. Soc. Exper. Biol. & Med. **67**: 502 (April) 1948.

Current Comment

THE OREGON AND SAN DIEGO SUITS

Elsewhere in this issue appear the complaints against the medical societies of Oregon and of San Diego, California, which explains the reasons alleged for undertaking these actions. Apparently the basic question is again the right of a medical society to refuse membership to a physician whom it does not find acceptable, the right of a medical society to oppose any group of physicians organized to practice as an agency rather than as individuals, and the right of a hospital to bar from its staff persons whom it finds unacceptable either because they are not members of a medical society or for some other reason. THE JOURNAL has been publishing recently a series of articles which deal with the formation of groups and the practice of medicine by groups of physicians. The idea of group practice is not new. More recently, however, the development of groups has been associated with solicitation of patients by a variety of technics and also with the establishment of insurance ventures of one kind or another to cover payment for medical services. As yet a standard form has not been developed for practice of this kind. It is not surprising that there should be differences of opinion among physicians in any given area as to whether such forms of medical practice represent technics that are for the good of the patient or for his exploitation. Unfortunately these actions seem to be related to political ventures in the field of health, such as Mr. Ewing's recent insistence on a nationwide compulsory sickness insurance program and Mr. Truman's advocacy of the same legislation. The medical profession of the United States has shown in no uncertain terms its opposition to government-controlled medical practice and equally its opposition to medical practice as a business. Some of the cooperative ventures in public health thrive by exploitation of the physician and by the delivery of a low quality of medical service. No doubt these cooperative ventures have likewise been interested in breaking the prestige of the medical organizations in various communities so that they might proceed quite unhampered in their activities. In any event, now that the matter has been brought into the courts, a better understanding of the difficulties will ensue.

ORGANIZATION SECTION

COMPLAINTS FILED AGAINST TWO MEDICAL SOCIETIES

Prepared by the

Bureau of Legal Medicine and Legislation, American Medical Association

There follow condensations of the complaints recently filed, respectively, against the Oregon State Medical Society, and others, under the Sherman Anti-Trust Act, and against the San Diego County Medical Society, and others, under the laws of the State of California.

UNITED STATES OF AMERICA, Plaintiff v. OREGON STATE MEDICAL SOCIETY, OREGON PHYSICIANS' SERVICE, CLACKAMAS COUNTY MEDICAL SOCIETY, CLATSOP COUNTY MEDICAL SOCIETY, COLUMBIA COUNTY MEDICAL SOCIETY, DOUGLAS COUNTY MEDICAL SOCIETY, JACKSON COUNTY MEDICAL SOCIETY, LANE COUNTY MEDICAL SOCIETY, MARION-POLK COUNTIES MEDICAL SOCIETY, THE MULTNOMAH MEDICAL SOCIETY, W. W. BAUM, JOHN BESSON, J. P. BRENNAN, JOHN H. FITZGIBBON, CHARLES E. HUNT, GORDON B. LEITCH, K. H. MARTZLOFF, and E. H. MCLEAN, Defendants.

Filed in the District Court of the United States for the District of Oregon, Oct. 18, 1948.

The complaint charges that beginning on or about Jan. 1, 1936, the defendants have been engaged in a combination and conspiracy to restrain and monopolize interstate trade and commerce in the business of selling and furnishing prepaid medical care in Oregon and in other states, in violation of Sections 1 and 2 of the Sherman Anti-Trust Act.

The conspiracy, the complaint alleges, has consisted of a continuing agreement and concert of action among the defendants: (1) to monopolize prepaid medical care business in Oregon and between that state and other states; (2) to limit the scope of medical care to be provided by prepaid medical care plans in Oregon; (3) to prevent, hinder and obstruct prepaid medical care organizations other than those sponsored by the defendants from continuing to engage in or from engaging in the business of selling and furnishing prepaid medical care in Oregon and in other states; (4) to restrain residents of Oregon and other states from entering into or continuing under prepaid medical care plans not sponsored or supported by the defendants; (5) to prevent physicians from cooperating in prepaid medical care plans not sponsored or approved by the defendants; (6) to restrict the use of hospital facilities by physicians cooperating in prepaid medical care plans other than those sponsored or approved by the defendants, and (7) to prevent Oregon hospitals from allowing their facilities to be used by physicians and patients associated with prepaid medical care plans other than those sponsored or approved by the defendants.

The combination and conspiracy alleged, the complaint continues, have been effectuated by the defendants in the following specific manner: (1) they have hindered and obstructed prepaid medical care organizations in their attempts to procure and retain qualified physicians to cooperate with them; (2) they have expelled, threatened and incited the expulsion from medical societies of physicians cooperating in prepaid medical care plans other than those sponsored or approved by the defendants; (3) they have formed and promoted their own prepaid medical care plans with the intent to drive out, hinder and obstruct other commercial medical care plans operating in Oregon; (4) they have interfered with commercial prepaid medical care organizations other than those sponsored or approved by them in obtaining hospital facilities for their members; (5) they have refused to treat patients and have caused others to refuse to treat patients who are members of a prepaid medical care plan not endorsed by defendants unless the patient pays cash; (6) they have refused and encouraged other physicians to refuse to give patients who are members of a prepaid medical care plan not endorsed by the defendants itemized statements that will enable the patient to be reimbursed under the plan to which he has subscribed; (7) they have refused to consult or assist and have encouraged others not to consult or assist physicians who treat members of a prepaid medical care plan not endorsed by them; (8) they have spread false propaganda for the purpose of discrediting any prepaid medical care plan not endorsed by them; (9) they have agreed among themselves and with others not to compete with each other for prepaid medical care business or with other similar organizations approved by or affiliated with them, and (10) they have succeeded in making hospital facilities in Oregon available only to members of the defendant Oregon Medical Society and its component county medical societies and have restricted and excluded other qualified physicians cooperating in prepaid medical plans other than those sponsored or approved by the defendants from access to such facilities.

The complaint, after attributing certain effects to the activities alleged to have been engaged in by the defendants, concludes with the prayer: (1) that the combinations and conspiracies alleged be declared to be illegal and violative of the Sherman Anti-Trust Act; (2) that the defendants be perpetually enjoined from further engaging in or carrying out the restraints and conspiracy alleged; (3) that the defendant medical societies be perpetually enjoined from refusing to take into their membership, and from expelling or threatening to expel from their membership any physician because of his cooperation in medical care plans other than those sponsored or approved by the defendants; (4) that defendant medical societies, on application or request therefor by any such physician, shall reinstate as a member in good standing any physician expelled from membership because of his cooperation in a medical care plan other than those sponsored or approved by the defendants; (5) that the defendants be perpetually enjoined from persuading or inducing or attempting to persuade or induce hospitals to discriminate in the use of their facilities against physicians or patients cooperating or associated with medical care plans other than those sponsored or approved by the defendants; (6) that the defendants be perpetually enjoined from persuading or inducing or attempting to persuade or induce physicians not to cooperate in medical care plans other than those sponsored by the defendants; (7) that the defendants be perpetually enjoined from suggesting, advocating or agreeing that physicians should refuse to treat patients who are associated with medical care plans other than those approved or sponsored by the defendants, or to discriminate against such patients with respect to fees charged for medical services, or discriminate against such patients by requiring them to pay cash for medical services or refuse to supply itemized statements to such patients showing the medical services rendered and the fees charged therefor; (8) that defendants be perpetually enjoined from the publication or dissemination of false or disparaging publicity concerning medical care plans other than those sponsored or approved by the defendants; (9) that the defendants be perpetually enjoined from advocating, inducing or agreeing that physicians who are members of defendant medical societies should refuse to consult in the diagnosis, care or treatment of patients of physicians cooperating in medical care plans other than those sponsored or approved by the defendants, or of physicians who are not members of defendant medical societies; (10) that the defendant "medical associations" be perpetually enjoined from refusing to give approval to any medical care plan on the ground that such plan is controlled or sponsored by a commercial organization, or that such plan provides for medical care of patients having incomes above any given amount, or that such plan

would compete with one or more other medical care plans approved or sponsored by the defendants; (11) that defendant "medical societies" be required to advise in writing all their component county medical societies, and to publish a statement in *Northwest Medicine*, that it no longer be the policy of such medical societies to do those things which, as alleged, they have combined and conspired to do; (12) that the plaintiff have such other and further relief as the court may deem just and proper, and (13) that the plaintiff recover its costs.

COMPLETE SERVICE BUREAU, A NONPROFIT CORPORATION, GEORGE ROY STEVENSON, CHESTER J. ANTOS, and ROBERT L. WILLIAMS, Plaintiffs v. SAN DIEGO COUNTY MEDICAL SOCIETY, A NONPROFIT CORPORATION, ROBERT J. PRENTISS, HIRAM D. NEWTON, W. H. GEISTWEIT JR., WILLIAM C. BLACK, MORTON N. CARLILE, E. MINTON FETTER, O. S. HARBAUGH, GEORGE HARTLYE JR., RALPH L. HOFFMAN, WILTON M. LEWIS, J. D. MACPHERSON, ROBERT MCIVER, THOMAS F. O'CONNELL, D. H. WERDEN, FRANCIS E. WEST, BLYTHE W. PAHL, JOHN DOE NOS. 1 to 20 respectively and inclusively, JOHN DOE COMPANY, a corporation, RICHARD ROE COMPANY, a corporation, and PETER WOE COMPANY, a corporation, Defendants.

Filed in the Superior Court of the State of California in and for the County of San Diego, Oct. 16, 1948.

The individual plaintiffs in this case are physicians associated with Complete Service Bureau, a nonprofit corporation operating a medical care plan. The individual defendants designated by their true names are members of the San Diego County Medical Society.

The complaint, nineteen pages in length, alleges, as a prelude, that the San Diego County Medical Society, the California Medical Association and the American Medical Association constitute a medical trust which connives to promulgate and enforce interlocking rules and regulations to control the practice of medicine and influence the operation of hospitals in the County of San Diego, Calif., and elsewhere. Additionally it is alleged that since 1937 the San Diego County Medical Society, in pursuance of a conspiracy, has closed its membership to all physicians engaged in service to the members of Complete Service Bureau and that it has sought to visit on such physicians complete business and social ostracism, complete restriction of consultation with society members, complete barring of such physicians and their patients from the major hospitals of San Diego County and to restrict them in the exercise of freedom of speech and freedom of contract.

The San Diego County Medical Society, the complaint continues, in or about the year 1937 expelled from its membership plaintiff Stevenson solely because of his connection with Complete Service Bureau and this action was affirmed by the California Medical Association on appeal. In or about the month of July 1948, it is alleged, the other named individual plaintiffs applied for membership in the society and their applications were rejected. One of the requirements for membership, the complaint states, is that the applicant must be recommended by two active members in good standing but that members have refused to sign the applications of physicians who are affiliated with Complete Service Bureau.

In further pursuance of the conspiracy alleged, the complaint charges that the defendants during the year 1947 and thereafter have attempted to poison the minds of the public against nonmembers by causing to be published and circulated paid advertisements in current editions of the San Diego County Telephone Directory of the Pacific Telephone & Telegraph Co., wherein most of the "member doctors are designated as members of San Diego County Medical Society" and in which appears statements intended falsely to convey to the public that nonmembers are not qualified to practice medicine, do not possess professional qualifications and moral character and do not conform to standards insuring the highest possible quality of service to the public.

Furthermore, it is charged, the defendants during the year 1947 and thereafter, have by word of mouth caused to be circulated by themselves and by society members and by nurses and other employees, and by members of their families, remarks in belittlement and derogation of nonmembers, frequently referring to them as "quacks" and designating their groups as "outfits" and characterizing the prepaid medical plan as a "scheme." The medical alleged trust and the defendants, the complaint continues, endeavor to shield their members from exposure and liability in case of malpractice and members of the San Diego County Medical Society consistently decline to appear as expert witnesses in court actions against other members of the society.

It is the custom of the medical trust and its members, it is charged, to recommend to hospital organizations operating in California a form of by-laws, rules and regulations for medical staff as approved by the American College of Surgeons, which contains an article on membership providing that applicants for membership on the medical staff of such hospitals shall be graduates of an approved medical school, legally licensed to practice in California, *qualified* for membership in the local medical society and practicing in the community or within a reasonable distance of the hospital. The complaint charges that the defendants further in pursuance of a conspiracy has induced the Quintard Hospital Corporation of San Diego to modify this recommended form by limiting members on its staff to members of the San Diego County Medical Society.

By reason of the activity of the defendants, the complaint charges, the Complete Service Bureau has had considerable difficulty in obtaining physicians to function in connection with its medical care plan, although the bureau has advertised for such physicians through various agencies existing throughout the United States and through advertising in periodicals circulated among physicians.

The complaint further charges that the Quintard Hospital Corporation, maintaining a hospital in San Diego, for several years extended staff courtesies to the individual plaintiffs and has accorded to members of Complete Service Bureau admission to the hospital and full hospital services. The hospital named, it is brought out in the complaint, was accepted for registration by the Council on Medical Education and Hospitals of the American Medical Association, June 19, 1948, but that the defendants have persuaded the management of the hospital corporation that in order to comply with the requirements of the American Medical Association and to maintain the recognition already given, it will be necessary to deny privileges to plaintiffs and to members of Complete Service Bureau. A letter was received from the Quintard Hospital Corporation, the complaint continues, advising the plaintiffs that in order to comply with the requirements set forth by the American Medical Association it will be necessary for the hospital to deny privileges to Complete Service Bureau.

The complaint charges that Complete Service Bureau has suffered and will suffer actual damages in the sum of $25,000 and each individual plaintiff damages in like amount. The complaint prays for a judgment for double the amount of actual damages and requests an injunction requiring the defendant San Diego County Medical Society to admit to membership the individual plaintiffs and all other qualified physicians affiliated with them, and to refrain from suspending or expelling them for any affiliation or participation with any prepaid medical group conducting its business in the manner in which Complete Service Bureau has been acting. An injunction is asked against all defendants restraining them from any and all acts intended to and tending to hinder and obstruct Complete Service Bureau in the conduct of its business and to obstruct the individual members of such bureau and physicians serving them in free availability of medical and hospital services in the market. The plaintiffs ask to recover their costs and to have all other proper relief.

Washington Letter

(From a Special Correspondent)

Nov. 7, 1948.

Supreme Court Hears Arguments in Urbeteit and Kordel Cases

Arguments in the Urbeteit and Kordel cases, both of which involve implements for self treatment which the federal government claims to be worthless, were heard by the U. S. Supreme Court October 13-14. Outcome of the 2 cases is expected to depend on the Court's interpretation of the word "accompany"; that is, whether or not the Food and Drug Act was violated in view of the fact that, in many of the interstate shipments of Urbeteit's "sinuothermic" machine and Kordel's drug remedies, the allegedly false and misleading literature describing the products was mailed separately from the merchandise. Government counsel argued that Congress, in passing the Food and Drug Act, did not intend that such descriptive material must be shipped in the same carton as the product for the federal law to be involved. Opposing counsel took a contrary view. How long it will be before the Supreme Court reaches a decision cannot be foretold.

Chlorine Dioxide Likely to Replace Agene ® in Flour Milling

Following a conference held recently in Washington, the Food and Drug Administration is working on, and probably will issue within a few weeks, revised standards for manufacture of flour the principal change in which will be substitution of chlorine dioxide for nitrogen trichloride (agene ®) as a bleaching agent. Evidence was presented at the conference, attended by representatives of federal law enforcement agencies, the milling and drug industries and scientists familiar with the toxicity of agene,® that the proposed substitute is both safe and practical. Among those who were heard at the conference sponsored by the Food and Drug Administration was Sir Edward Mellanby, who in 1946 demonstrated the injurious effect on dogs of white flour bleached with nitrogen trichloride (See THE JOURNAL of Nov. 22, 1947).

Women Physicians to Intern in Naval Hospitals

Its ranks now open to women, the Regular Navy is seeking to fill twenty-five newly created positions for interns in naval hospitals. In addition, twenty dietitians and two physical therapists are needed for the Medical Service Corps, to start with the rank of ensign. Women interns will be commissioned as lieutenants (junior grade) in the Naval Reserve and, on completion of eight months' training, they will be qualified to take the professional examinations for the Regular Navy. Details of another procurement program under which civilian woman physicians may apply directly for the Regular Navy will be announced later.

Scientist Mobilization Committee Formed

A special committee on mobilization of scientific man power has been announced by the National Military Establishment. Chairman of the group, whose first meeting was held in Washington, October 13-14, is Irvin Stewart, president of West Virginia University. Its formation was at the suggestion of Vannevar Bush, retiring chairman of the Research and Development Board.

First Displaced Persons to Arrive in the United States

The first immigrants under the Displaced Persons Act have arrived in this country. Among them there is expected to be a small proportion of physicians, dentists and nurses, according to the Washington offices of the International Refugee Organization. Of 340,000 displaced persons whose occupational skills have been classified, 1,150 men and 458 women are listed as physicians and surgeons. In addition, 43 men and 25 women are classified as pediatricians; 35 men and 17 women as ophthalmologists; 294 men and 462 women as dentists; 21 men and 2,566 women as nurses and nurses' aides; 349 men and 380 women as pharmacists; 300 men and 36 women as veterinarians, and 15 men and 21 women as dietitians. In addition, there are approximately 350 dental technicians and mechanics, 85 medical laboratory technicians, 70 opticians, 300 physical therapists and 60 x-ray technicians. The International Refugee Organization is working with various voluntary agencies to facilitate sponsored entry of professional and subprofessional workers and their admission to practice of their vocations in the various states.

Tri-Service Specialty Board Defers Action on Candidates

In anticipation of final recognition of the American Board of Preventive Medicine and Public Health within the next few months, the Interim Board of Preventive Medicine and Public Health took no action on applications for certification at its meeting October 15. The interim group, representing the Army, the Navy and the U. S. Public Health Service, plans to disband as soon as the newly organized national board, whose trustees met in Chicago last month, achieves formal recognition by the Advisory Council on Medical Specialities. Dr. Ernest L. Stebbins, secretary of the American Board of Preventive Medicine and Public Health and chairman of the interim triservice body, presided over the October 15 meeting.

Advisory Health Council

Recommendations for research grants made by its various study sections were to be laid before the National Advisory Health Council at its meeting October 22 at the National Institutes of Health. This was the final session for two members, whose terms expire at the end of this year. They are Drs. Gordon Fair and Harry Mustard.

Hoover Commission Schedules Hearings for Professional Groups

Representatives of the American Medical, Hospital, Dental and Public Health Associations were scheduled to appear before the Hoover Commission's committee on medical and hospital services October 21-22 to explain their ideas for improving these services as administered by the federal government.

Radioisotope Facilities

The F. H. Martell Co., contractors, has been announced by the U. S. Public Health Service as low bidders for the contract to build a radioisotope facilities building to serve the clinical research hospital and laboratories now under construction at the National Institutes of Health, Bethesda, Md.

Coming Medical Meetings

American Medical Association Interim Session, St. Louis, Municipal Auditorium, Nov. 30-Dec. 3. Dr. George F. Lull, 535 N. Dearborn St., Chicago 10, Secretary.

Annual Conference of State Secretaries and Editors, St. Louis, Hotel Statler, Nov. 28-29. Dr. George F. Lull, 535 N. Dearborn St., Chicago 10, Secretary.

National Medical Public Relations Conference, St. Louis, Hotel Statler, Nov. 27. Mr. Lawrence W. Rember, 535 N. Dearborn St., Chicago 10, Director.

American Academy of Dermatology and Syphilology, Chicago, Palmer House, Dec. 5-9. Dr. Earl D. Osborne, 471 Delaware Ave., Buffalo, Secretary.

American Academy of Pediatrics, Atlantic City, Chalfonte-Haddon Hall, Nov. 20-23. Dr. Clifford G. Grulee, 636 Church St., Evanston, Ill., Secretary.

American Association of Railway Surgeons, Chicago, Nov. 21-23. Dr. Raymond B. Kepner, 547 W. Jackson Blvd., Chicago 6, Secretary.

American Public Health Association, Boston, Nov. 8-12. Dr. Reginald M. Atwater, 1790 Broadway, New York 19, Executive Secretary

American Society of Tropical Medicine, New Orleans, Roosevelt Hotel, Dec. 5-9. Dr. Frederick J. Brady, National Institute of Health, Bethesda 14, Maryland, Secretary.

Association for Research in Nervous and Mental Diseases, New York, Waldorf-Astoria Hotel, Dec. 10-11. Dr. Clarence C. Hare, 700 W. 168th St., New York 32, Secretary.

Eastern Section, American Federation for Clinical Research, Philadelphia, Temple University School of Medicine, Dec. 4. Dr. J. Edward Berk, Temple University School of Medicine, Philadelphia, Chairman.

International College of Surgeons, U. S. Chapter, St. Louis, Kiel Auditorium, Nov. 16-19. Mr. Ralph E. Osborne, 1516 Lake Shore Drive, Chicago, Business Secretary.

Puerto Rico, Medical Association of, Santurce, Dec. 10-12. Dr. J. Basora Defillo, Box 3866, Santurce, Secretary.

Radiological Society of North America, San Francisco, Dec. 5-10. Dr. Donald S. Childs, 607 Medical Arts Bldg., Syracuse 2, N. Y., Secretary.

Southern Psychiatric Association, Dallas, Texas, Hotel Adolphus, Dec. 6-7. Dr. Newdigate M. Owensby, 384 Peachtree St. N.E., Atlanta, Ga., Secretary.

Southern Surgical Association, White Sulphur Springs, W. Va., Dec. 7-9. Dr. Alfred Blalock, Johns Hopkins Hospital, Baltimore 5, Secretary.

Western Surgical Association, St. Louis, Dec. 2-4. Dr. Warren H. Cole, 1853 W. Polk St., Chicago 12, Secretary.

GOVERNMENT SERVICES

ARMY

JAPANESE RESEARCH IN THE SOCIAL SCIENCES

The Department of the Army's Civil Affairs Division has announced that five American educators are en route to Tokyo, Japan, on ninety day assignments to assist General MacArthur's headquarters in promoting the expansion of Japanese research in the social sciences. The five educators will appraise current social science research and act as a board of consultants to Japanese scholars and scientific organizations in formulating plans for personnel training, long range research projects and organizational programs. The mission will also advise officials in planning future assistance and encouragement to be extended to social science research activities in Japan. Members of the mission are: Glenn T. Trewartha, chairman, department of geography, University of Wisconsin, Madison, Wis.; Luther W. Stalnaker, professor of philosophy, Drake University, Des Moines, Iowa; George K. Brady, professor of English, University of Kentucky, Lexington; Edwin O. Reischauer, associate professor of far eastern languages, Harvard University, Cambridge, Mass., and Charles E. Martin, professor of international law and political science, University of Washington, Seattle.

SENTENCES FOR WAR CRIMES

The Department of the Army has released a recapitulation of sentences involving war crimes defendants in Germany. Of the 1,672 sentences originally imposed, 1,090 were approved on review and 69 were disapproved; there were 256 acquittals and 255 sentences were reduced. Of the 426 death sentences adjudged, 299 were approved; of the 199 life sentences, 139 were approved on review; of 10 thirty year sentences, 6 were approved and the other 4 were reduced; of the 25 year sentences adjudged, 2 were disapproved and the other 19 adjudged were much reduced, and so on with the lesser sentences adjudged. The total number of sentences approved as adjudged was 1,090, the disapproved was 69, the acquittals 256, and the reduced sentences numbered 255.

TRAINING IN CIVILIAN INSTITUTIONS

The Surgeon General's Office announced October 12 that forty more Medical Department officers had been accepted for training in civilian institutions. This training includes internships for the young officers and for others special courses in poliomyelitis and surgery. The list of officers comprised four colonels, two lieutenant colonels, one major and thirty-three first lieutenants.

INSTITUTE OF PATHOLOGY EXHIBITS

The Institute of Pathology presented an exhibit entitled "The General Practitioner in the Atomic Age," at the centennial meeting of the Medical Society of the State of Pennsylvania at Philadelphia October 4-7. The six panel exhibit was planned to bring to the attention of general practitioners clinical conditions and damage to both animate and inanimate objects, a possible plan for management of catastrophies and some recognized methods of treatment.

The institute presented an exhibit at the meeting of the American Society of Clinical Pathologists in Chicago October 10-15, comprising eight panels explaining the activities of the American Registry of Pathology.

NAVY

SPECIAL COURSE FOR RESERVE OFFICERS

A course of instruction in the medical aspects of radioactive isotopes and special weapons will be conducted at the Naval Medical School, Bethesda, Md., from December 6 through December 10. The course is primarily for the benefit of inactive reserve medical officers. The instructors will be outstanding men in their specialties. Inactive reserve medical officers who desire to attend this course should submit a request to the commandant of their local naval district prior to November 15. The facilities available make it necessary to restrict attendance to 200 officers. Sleeping quarters will be available for many of those who wish such accommodations.

NOMINATED FOR POSTGRADUATE INSTRUCTION

The following medical officers were nominated early in October for courses in postgraduate instruction: Lieut. John T. Egan of Jamaica, L. I., N. Y., to a residency in obstetrics and gynecology at the Naval Hospital, St. Albans, N. Y.; Lieutenants (jg) Paul G. Bamberg, M.C.R., of Boston, to a residency in general practice, Naval Hospital, Chelsea, Mass.; Robert C. Kessler, M.C., of Auburn, N. Y., to a residency in general practice, Naval Hospital, Portsmouth, Va., and John H. Young, M.C., of Dayton, Ohio, to a residency in psychiatry at the Naval Hospital, Bethesda, Md.

PERSONALS

The following Medical Reserve Corps officers have reported for their first active duty: Lieutenants Timothy F. Lally of San Francisco; (jg) John E. Aiken of Los Angeles; Louis E. Beckham Jr., of Tuscaloosa, Ala., and Robert R. Gillespy Jr., of Garden City, N. Y.

Capt. James J. Hayes of Brooklyn, and Lieutenants (jg) John S. Graettinger of Ontario, Calif., and Ramon A. Mouton of New Orleans have transferred from the Medical Corps Reserve to the Regular Navy.

Comdr. Thomas E. Cone Jr., M.C.R., of Cranston, R. I., is being recalled to active duty and ordered to postgraduate instruction under the new Navy Graduate Medical Training Program. Capt. Raymond J. Mansfield, M.C.R., of Healdsburg, Calif., and Lieut. (jg) Forrest M. Nelson, M.C.R., of Austin, Texas, have voluntarily been recalled to active duty.

Comdr. George H. Davis, M.C., has been assigned to the Naval Medical Center, Bethesda, Md., as a resident in radiology.

NEW NAVY INTERNS

The Bureau of Medicine and Surgery announced as of October 13 that twenty-five additional medical school graduates have accepted commissions as lieutenants (jg) in the Medical Corps Reserve under the Navy's Medical Intern Training Program for internships in civilian institutions. On the completion of the period of internship they will serve on active duty in the Navy.

LEPROSY CONTROL IN THE PACIFIC ISLANDS

Lieutenant Jack W. Millar, M.C., U.S.N., of Palo Alto, Calif., has volunteered for assignment on Tinian Island in the Pacific to start the first leprosy control effort in the Pacific Trusteeship Territory. The Navy is completing a temporary leprosarium on Tinian Island with facilities for treating 100 patients, natives of the Carolines, Marianas, Marshalls, Palaus and Yap. In all, there are about 50,000 natives on these islands, and, according to the Associated Press, Dr. Millar estimates that the number of lepers among them exceeds 500 and may be as many as 1,000. Tinian Island, which has no native population, is now occupied by a small naval force. Dr. Millar will be assisted in this work by two naval medical corpsmen.

VETERANS ADMINISTRATION

SPECIAL HOMES FOR PARAPLEGICS

The Veterans Administration, Washington, D. C., states that a veteran of war or peacetimes service with a permanent, total, service-connected disability due to a disease or injury of the spinal cord, which results in paralysis of the legs and lower part of the body may qualify for federal aid to acquire a home specially designed for wheel chair living. Eligible veterans will receive a federal grant of not more than 50 per cent of the cost of the home or a maximum of $10,000 with which to buy or build a new home or to remodel an existing home for their requirements. The grant also may be used to pay off the indebtedness on such a special home already acquired by an eligible veteran.

LIFE INSURANCE FOR VETERANS

National Service Life Insurance has been available since Oct. 8, 1940, to persons serving in the armed forces. However, those ordered to temporary active duty for thirty days or less do not qualify by virtue of that service. Veterans are entitled to retain their National Service Life Insurance after discharge, and those who served between Oct. 8, 1940, and Sept. 2, 1945, may (subject to certain health requirements) take out new insurance even though they held none while in service. This group also may increase the amount of their government insurance at any time up to the $10,000 maximum. The premium rates on National Service Life Insurance are low because all administrative costs and expenses resulting from claims traceable to the extra hazards of military or naval service are borne by the government and are paid by separate appropriations. There are no restrictions as to residence, travel, occupation or service in the armed forces. National Service Life Insurance is mutual insurance, and premiums and interest earned from invested funds are carried in a Treasury trust fund. Dividends will be payable as earned and authorized by the Administrator of Veterans Affairs. For a small additional premium, there may be added to any policy a total disability rider which provides monthly payments to the insured while he is totally disabled for six consecutive months or longer. National Service Life Insurance carries no restriction as to designation of beneficiaries. The insured may name any person or firm or his estate or other legal entity to receive the proceeds of his insurance.

CONTRACT FOR HOSPITAL AT SEATTLE

The contract for the construction at Seattle of a 300 bed general medical and surgical hospital for the Veterans Administration has been awarded. The general construction contract was awarded the low bidder for $6,077,320; elevators and dumbwaiters will be installed for an additional $234,319.

PERSONALS

Dr. Roy O. Hawthorne has been promoted to chief medical officer at the veterans hospital in St. Petersburg, Fla.

Dr. Clarence R. Miller has been assigned as manager of the Veterans Administration Hospital at Jackson, Miss., to succeed Dr. J. Ralston Wells, who will be in charge of the Veterans Hospital at Dallas, Texas. Dr. Miller is a veteran of World War I, formerly served in the U. S. Public Health Service, and for many years has been in the Veterans Administration.

PUBLIC HEALTH SERVICE

MICROBIOLOGICAL INSTITUTE

Surgeon General Scheele has appointed Dr. Victor H. Haas director of the new Microbiological Institute which has been established in the National Institutes of Health. The following units of the National Institutes of Health have been assigned to the Microbiological Institute: the Division of Infectious Diseases, the Division of Tropical Diseases and the Biologics Control Laboratory, which, on transfer November 1, will be renamed respectively the Laboratory of Infectious Diseases, the Laboratory of Tropical Diseases and the Laboratory of Biological Control. The Rocky Mountain Laboratory at Hamilton, Mont., which formerly was under the Division of Infectious Diseases, will operate as a separate laboratory under the general supervision of the director of the Microbiological Institute. The institute also will conduct studies on the transmission, control and prevention of infectious diseases and fundamental research on the growth requirements, metabolism and conditions of survival of micro-organisms as related to public health.

Dr. Haas joined the Public Health Service in 1932, the year in which he was graduated from the University of Cincinnati School of Medicine. During the war he was in charge of the disposition of medical forces connected with the construction of the Stilwell Road from India to Burma and China, and for this work was awarded the Legion of Merit. In 1947 he was named chief of the Subdivision of Malaria in the Division of Tropical Diseases, National Institutes of Health.

DETAILED INFORMATION ON CANCER

A survey sponsored by the National Cancer Institute, the Maryland State Health Department and the American Cancer Society will endeavor to obtain detailed information on cancer and an evaluation of the effectiveness of cancer control technics at the local health unit. The survey will be made in Frederick, Hartford, Montgomery and Washington counties in Maryland, in which counties cards have been distributed to physicians and hospitals for reporting the name, location and type of each case of cancer. This information will be kept confidential. A card is also filled out and returned to the county health department for each new patient with cancer, and a case worker will call on the patient and his family. Completed case histories will be correlated with those of other patients with cancer. The survey will evaluate also the adequacy of existing hospital and medical personnel and the effectiveness of nurses in case finding and follow-up.

NATIONAL INSTITUTES OF HEALTH

Surgeon General Scheele has announced the assignment of additional laboratories to the Experimental Biology and Medicine Institute which is a part of the National Institutes of Health. On October 15, the Laboratory of Physical Biology was assigned to the Experimental Biology and Medicine Institute, the designation of the Division of Physiology was changed to Laboratory of Biochemistry and Nutrition, the designation of the Chemistry Laboratory was changed to Chemistry and Chemotherapy, and the designation of the Pathology Laboratory was changed to Pathology and Pharmacology. The Director of the Institute of Experimental Biology and Medicine is Dr. William H. Sebrell.

PERSONALS

Dr. Ralph W. G. Wyckoff of the National Institutes of Health, Bethesda, Md., has gone to Europe to accept an honorary degree from the Faculty of Medicine of the Masaryk University at Brünn, Czechoslovakia, in recognition of his work in the application of physics to biology and medicine.

Dr. Robert J. Anderson has been appointed as medical director and chief of the Tuberculosis Control Division to succeed Dr. Francis J. Weber, who will do postgraduate work at Johns Hopkins University.

Surgeon Charles C. Shepard left for Sweden September 12 for a course of special training in chemical biophysics at Uppsala University under the tutelage of Prof. Arne Tiselius, a widely known investigator in this field. This inaugurates a new policy for additional training of young research officers at the National Institute of Health.

Medical News

(Physicians will confer a favor by sending for this department items of news of general interest; such as relate to society activities, new hospitals, education and public health. Programs should be received at least two weeks before the date of meeting.)

CONNECTICUT

Personal.—Dr. Edward B. Sinclair, New Haven, has been appointed Crippled Children physician in the State Department of Health. A graduate of Yale University School of Medicine in 1935, Dr. Sinclair, after discharge from the army in 1946, was medical consultant for vocational rehabilitation at the Veterans' Administration office, Providence.

The Care of the Patient.—Sponsored by the Connecticut State Medical Society, a Committee for the Improvement of the Care of the Patient was formed at a recent meeting in New Haven. The committee includes Drs. Katherine J. Edgar, Bridgeport; Joseph A. Fiorito, New Haven, and D. Dillon Reidy, Hartford, for the state medical society; Irma Bieheusen, New Haven; Helen M. Cullen and Agnes Ohlson, Hartford, for the State Nurses' Association; William J. Donnelly, Greenwich; Leon H. French, Waterbury; Richard J. Hancock, New London, and Hiram Sibley, New Haven, for the Connecticut Hospital Association.

DISTRICT OF COLUMBIA

Clinical Cancer Research.—Dr. Roy Hertz, assistant professor of medicine at George Washington University School of Medicine, has been named chairman of a committee to develop and direct a joint program of clinical cancer research sponsored by the medical school and the National Cancer Institute. Other members of the committee are Drs. Brian Blades, Thomas M. Brown, Calvin T. Klopp, Thomas M. Peery, J. Keith Cromer and Paul K. Smith, Ph.D. The cooperative program is financed by the National Cancer Institute, the American Cancer Society and private sources. Three initial studies are under way:

1. Endocrine and metabolic aspects of cancer of the breast, prostate, uterus, ovaries and testes.
2. Nutritional aspects of cancer of the gastrointestinal tract. The first study concerns the metabolism of vitamin A.
3. Metabolic aspects of nitrogen mustard therapy in lymphoid diseases. A clinical laboratory for these studies has been established at the new George Washington University Hospital, and a ward will be set up shortly. Further studies, as well as the patients to be admitted, will be determined by the directing committee, with the advice of the tumor board of Warwick Clinic. The National Cancer Institute laboratories at Bethesda, Md., will be available also for studies that require more extensive technical facilities.

GEORGIA

Fifty Years in Practice.—At a meeting of the Council of the Medical Association of Georgia September 22, a proposal was approved to award appropriate certificates and lapel buttons to all reputable physicians of the state who have completed fifty years in the practice of medicine. The responsibility for selecting these physicians was placed on the county medical society. Awards will be presented at the Centennial Session of the association, May 10-13, 1949.

KENTUCKY

Dr. Brown Given Distinguished Service Medal.—The Distinguished Service Medal, awarded annually by the Kentucky Medical Association, was presented to Dr. J. Samuel Brown, Ghent, at the recent annual meeting in Cincinnati. He was nominated by the Tri-County Medical Society for having rendered the most outstanding service not only during the current year but in years past. Dr. Brown has practiced in Carroll County for more than fifty-five years.

LOUISIANA

Graduate Course on Neoplastic Diseases.—A graduate course on neoplastic diseases will be presented in the Hutchinson Memorial Building Auditorium, Tulane University of Louisiana Division of Graduate Medicine, New Orleans, November 15-17, in conjunction with the Orleans Parish unit and the Louisiana State Divisions of the American Cancer Society. A tumor clinic will be held Wednesday afternoon in Miles Amphitheater, Charity Hospital. On the evening of November 15 the first annual lectureship of the Louisiana State Division of the American Cancer Society will be presented by Dr. Vernon David, Chicago, speaking on "The Local Spread of Carcinoma of the Large Bowel and Its Bearing on Prognosis and Treatment," and by Dr. John R. McDonald, Rochester, Minn., speaking on "The Smear Technic as an Aid in the Diagnosis of Malignancy."

MAINE

Rockefeller Gives Land to Laboratory.—Thirty acres of land across the road from the main laboratory unit have been given to the Roscoe B. Jackson Memorial Laboratory at Bar Harbor by John D. Rockefeller Jr. It will be used for a group of units to house visiting scientists who work at the laboratory each summer.

The Lancaster Course in Vision.—The Foundation for Vision has decided to repeat its course in the basic subjects of ophthalmology under the supervision of the Ophthalmological Study Council, which is sponsored by the foundation. The next course will use the facilities of Westbrook Junior College in Portland, Maine. It is to be known as the Lancaster Course in honor of Dr. Walter B. Lancaster, director of the previous courses, who will be succeeded by Dr. Parker Heath, clinical professor of graduate ophthalmology at Harvard Medical School.

MARYLAND

Friedenwald Lecture.—Dr. Frank H. Lahey, Boston, on October 14 gave the third annual Dr. Julius Friedenwald Memorial Lecture at the University of Maryland School of Medicine, Baltimore, on "Gastric Surgery." The Friedenwald Lecture was established at the university in 1941.

Dr. Longmire Goes to California.—Dr. William P. Longmire Jr., associate professor of surgery, Johns Hopkins University School of Medicine, Baltimore, has been appointed professor of surgery in the Medical School, University of California at Los Angeles. Dr. Longmire received his M.D. degree at Johns Hopkins in 1938.

MICHIGAN

Personals.—Dr. Walter J. Wilson Sr. has been made emeritus professor of clinical medicine at Wayne University College of Medicine, Detroit.——Dr. Harold B. Rothbart, instructor in clinical pediatrics, Wayne University College of Medicine, Detroit, has been named president of the Detroit Pediatric Society for the current year.

Public Health Conference.—The annual Michigan Public Health Conference will be held at the Pantlind Hotel, Grand Rapids, December 1-3. Emphasis will be placed on Michigan programs, and a symposium type of session will be featured. After adjournment of the conference on Friday the Michigan School Health Association will meet.

Cancer Institute Affiliates with Wayne University.—The Detroit Institute for Cancer Research has been formally affiliated with the Wayne University College of Medicine, Detroit. Under the plan, appointments to the scientific staff of the institute will be made on recommendation of its scientific director when such recommendations bear the endorsement of the university faculty. The dean of the college will be a member of the executive committee of the board of trustees of the institute, and the scientific director of the institute will be a member of the administrative committee of the college.

MISSOURI

St. Louis' Silver Jubilee Dinner.—St. Louis University School of Medicine at a dinner October 29 at the Missouri Athletic Club honored those who have served twenty-five years or more as instructional officers, giving each one a citation and a replica in silver-plated bronze of the seal of St. Louis University. Father Alphonse Schwitalla, dean, presided. Dr. Alphonse McMahon, associate professor of internal medicine, gave the response for the jubilarians. The dinner address was given by Dr. Morris Fishbein, Chicago, on "Ideals of American Medicine." The jubilarians were: Drs. Franklin H. Albrecht, Leo Bartels, Irving H. Boemer, Ralph L. Cook, Joseph P. Costello, Oswald P. J. Falk, Florent E. Franke, George T. Gafney, William J. Gallagher, John Green, John F. Hardesty, Walter E. Hennerich, Joseph L. Hutton, Vincent L. Jones, Alver H. Kerper, Paul F. Kistner, Ellsworth Kneal, George H. Koenig, Alexander J. Kotkis, Paul Lowenstein, William H. Leudde, Benjamin F. May, Alphonse McMahon, Albert J. Motzel, Charles A. Neumann, Carl A. Powell, Rudolph V. Powell, Hugo Reim, Linus M. Ryan, Harry Sandperl, LeRoy Sante, Robert E. Schlueter, Alfred O. Shaklee, Charles F. Sherwin, Edward C. Spitze, John W. Stewart, Edward A. Dorsy, Ph.D., and Wendell H. Griffith, Ph.D.

MONTANA

Open Medical Research Center.—Montana's first medical research center, established by the Western Foundation for Clinical Research, opened in September in a remodeled wing of a local hospital in Great Falls. The foundation has received a $22,500 grant from the National Institute of Health, which has enabled it to start on its first project. The center will initially study methods of preventing or relieving abnormal accumulation of fluids in heart, blood vessels and kidney disease, under the direction of Dr. Ferdinand R. Schemm, who has been designated by the National Institutes of Health as chief investigator of the project, serving without remuneration. Research and dietetic laboratories and a metabolic unit with rooms for about 12 patients who will be under study make up the center. The Western Foundation, according to John D. Stephenson of Great Falls, secretary-treasurer, was established in the hope that worth while research could be undertaken in the Northwestern section of the United States using qualified local personnel.

NEBRASKA

Dr. Davis to Head Department of Surgery.—Dr. Herbert H. Davis, a member of the department of surgery at the University of Nebraska College of Medicine, Omaha, has been appointed chairman of the department, succeeding Dr. J. Jay Keegan, professor of neurologic surgery, who wished to be relieved of administrative duties. Dr. Davis is a graduate of Johns Hopkins University School of Medicine, Baltimore, 1920, and is one of the founding members of the American Board of Surgery. His father, the late Dr. Bryon B. Davis, was at one time chairman of the department.

NEW MEXICO

State Medical Election.—At the annual meeting of the New Mexico Medical Society, Philip L. Travers, Santa Fe, was installed as president, James W. Hannett, Albuquerque, was chosen president-elect, Harold L. January, Albuquerque, secretary-treasurer and John F. Conway, Clovis, delegate to the American Medical Association, with William R. Lovelace as alternate.

NEW YORK

Medical Advisory Board for Boxing Commission.—To make boxing and wresting less hazardous, New York has enacted a law creating a nine man medical advisory board to the state boxing commission under the chairmanship of Dr. Frank R. Ferlaino, New York. New standards and regulations for examination before and after bouts will be formulated by the advisory board. Dr. Ferlaino reports that in 1946 there were 11 deaths in the ring, in 1947, 9, and as of September 27, 1948, 12. Dr. Ferlaino is a graduate of the John Hopkins Medical School, is an attending physician at the New York Post Graduate Medical School and Hospital, has specialized in the relation of trauma to disease in industry and is consulting physician to the General Motors Corporation.

Laboratory Training for Pathologists.—Pathologists preparing for a career in diagnostic laboratory work in New York State may receive training in a program sponsored by the New York State Department of Health. Experience in pathology, bacteriology, biochemistry and other laboratory fields is afforded in this division and in cooperating institutions in Albany and in New York City. One year appointments are open to physicians with graduate training. The program is approved by the American Board of Pathology. Candidates must be United States citizens and graduates of a medical school approved by the American Medical Association. They need not obtain a license to practice medicine in New York State, but must be eligible to take the examination for license. A stipend is granted to trainees. Inquiries should be directed to the Division of Laboratories and Research, State Department of Health, Albany 1.

New York City

Symposium on Viral Infections.—A symposium on pathogenesis and pathology of viral infections will be held by the section on microbiology of the New York Academy of Medicine on Tuesday evening and Wednesday afternoon and evening of December 14 and 15, with Dr. John G. Kidd as chairman.

Hospital News.—Cornerstone for the new Shirley Joyce Katz Pavilion of the Jewish Sanitarium and Hospital for Chronic Diesases, Brooklyn, was laid September 19 and will be completed next spring. The new building, the fourth on the hospital grounds, will add 350 beds and an entire floor for medical research on poliomyelitis and chronic diseases. Two wings will be devoted to the care of children suffering from poliomyelitis and rheumatic heart conditions.

Transportation Service for Premature Infants.—The departments of hospitals and health of New York City are instituting a free transport service for premature babies. A special ambulance with portable heated incubators and oxygen and staffed by nurses who have been trained in the care of prematurely born infants is provided. Requests for transportation of premature babies are made to the Maternity and Newborn Division, Department of Health, 125 Worth Street, WOrth 2-6900. A similar service has been used successfully for a number of years in Chicago an1 Baltimore.

Sharp Increase in Tuberculosis.—The New York Tuberculosis and Health Association has reported a 12 per cent increase in the number of new cases of tuberculosis in New York City during the first nine months of 1948. The report showed 6,433 new cases registered with the department of health between January 1 and September 30, an increase of 666 over the same period in 1947. A total of 2,445 deaths from tuberculosis was recorded in the city, which was an increase of 126, or 5 per cent, over the number reported for the similar period of 1947. Increases were noted in every borough but the Bronx, with the highest rate recorded for Manhattan. Of 18,000 known cases of tuberculosis in the city, a total of 7,959 was segregated either in the hospitals within the city or in sanatoriums out of town. The number hospitalized within the city, 5,485, was 11 per cent greater than a year ago on the same date. The number of patients attending tuberculosis clinics, 4,820 on September 30, was 8 per cent more than a year ago, and the number under the care of private physicians, 3,965, showed a decrease of 6 per cent. The tuberculosis death rate for the first nine months of 1948 was 40.4 per 100,000 population as contrasted with the rate of 38.9 for the same period last year. In Manhattan the rate increase was double that recorded for the city as a whole.

OHIO

Personal—Dr. Richard L. Meiling, assistant professor of obstetrics and gynecology at Ohio State University College of Medicine, Columbus, has been named a medical consultant to the committee studying the organization of the U. S. security program for the Hoover Commission. Dr. Meiling aided in planning the Army's medical air evacuation program during World War II.

Dr. Toomey on Leave of Absence.—Dr. John A. Toomey, Cleveland, has left his duties as director of the contagious department at the City Hospital and professor of clinical pediatrics and contagious diseases at Western Reserve University School of Medicine for a sabbatical leave to rest and do private practice in Miami. He is replaced by Dr. Morris Schaeffer, who is acting director of the contagious department and assistant professor of pediatrics at Western Reserve University.

Dr. Beck Lectures at Navy Medical Center.—At the second of the series of guest lectures sponsored by the Navy Medical Center, Bethesda, Md., Dr. Claude S. Beck, professor of neurosurgery at Western Reserve Medical School, Cleveland, was the guest speaker. His subject was "Revascularization of the Heart for Angina Pectoris and Coronary Artery Thrombosis." These monthly meetings are open to the local medical societies, faculties and students of medical schools and medical officers of the Army, Navy, Public Health Service and Veterans Administration in the vicinity of Washington, D. C.

PENNSYLVANIA

Blair County Adopts Emergency Call Plan.—The Blair County Medical Society has adopted an emergency call plan which provides for two alternate physicians for each doctor listed at the physicians' exchange. The plan is for emergency purposes only.

Philadelphia

Dedicate Fels Research Institute.—The Samuel S. Fels Research Institute of Temple University School of Medicine was dedicated October 22-23. A symposium on recent advances in gastric physiology was held Friday afternoon. The principal address at the dedicatory exercises was delivered by Edwin G. Conklin LL.D., Princeton, N. J., after which Mr. Samuel S. Fels spoke on the purposes of the institute, of which Dr. Harry Shay is the director.

Television in Teaching Surgery.—The University of Pennsylvania School of Medicine will install television facilities for visual education of medical students in its Philadelphia Medical Center, according to the *Chicago Daily News*. Dr. Robin C. Buerki, vice president in charge of medical affairs, said that medical students will study surgery from a video screen in the same room in which they study other subjects, permitting elimination of students' galleries in operating rooms and the saving of valuable space.

TENNESSEE

Professor Wallgren to Lecture.—Dr. Arvid J. Wallgren, Stockholm, Sweden, will arrive in the United States about March 1, 1949 to deliver the next Abraham Flexner lectures at the Vanderbilt University School of Medicine, Nashville. Dr. Wallgren has been associate professor of internal medicine at Upsala University and head of pediatrics at the Royal Caroline Medical Institute since 1942. This lectureship is awarded every two years to a scientist of outstanding attainment who shall spend as much as two months in residence in association with a department either of a fundamental science or of a clinical branch.

VIRGINIA

Appointed to State Health Department.—Dr. Albert S. McCown, Seattle, has been appointed director of the Bureau of Communicable Disease Control of the Virginia Department of Health, Richmond. Dr. McCown received his M.D. degree at Johns Hopkins University School of Medicine, Baltimore, 1918. He has served in the Washington State Health Department, the U. S. Children's Bureau in Washington, and has been director of medical and health service of the American Red Cross since 1940. During the late war he was a colonel in the medical reserve corps of the Army.

Establish Two Annual Lectures.—The executive committee and the medical staff of the Memorial Hospital, Winchester, have established two annual lectures in connection with the regular monthly staff conferences. The Frank N. Hack lecture will be given by Dr. Alfred Blalock, Baltimore, on "Surgical Treatment of Congenital Cardiovascular Defects," November 17 at the hospital. Dr. Hack of Winchester has greatly aided in the construction and maintenance of the newer portions of the hospital. The Hunter H. McGuire lecture will be given by Dr. Irving S. Wright, New York, on "The Use and Abuse of Anticoagulant Therapy in the Treatment of Thromboembolic Diseases." Dr. McGuire has been president of the hospital since its organization in 1901.

WEST VIRGINIA

Personals.—Dr. Arkie B. Bowyer, Charleston, was elected commander of the West Virginia department of the Veterans of Foreign Wars at the annual meeting in June.——Dr. Alexander Witkow, director of the bureau of county health work of the state department of health, has resigned, effective October 1, to accept a similar position at Worcester, Mass.

State Association Favors Establishment of Medical School.—The council of the West Virginia State Medical Association has gone on record as favoring the establishment at Charleston of a four year school of medicine and dentistry of West Virginia University to provide for the graduation annually of fifty doctors and twenty-five dentists. The recently released university budget carries an item of $2,000,000 for a medical school, which the council will ask to be increased by $500,000, the estimated amount needed for adding the dental school. The need for the school has been more apparent this year than ever before, according to the association. There are 436 students taking premedical work and 93 students taking predental work at the university during the fall semester. There were 181 applications for enrolment in the medical school from bona fide residents of the state for the semester beginning September 1948. Only 30 of this number could be accepted. Over 600 applications for enrolment in the medical school are on file from students residing in other states.

WISCONSIN

Lecture on Nutrition in China.—The University of Wisconsin Medical Society will present Dr. H. C. Hou, director of the Institute of Nutrition in Nanking, China, in a lecture on "Nutritional Deficiency Disease Problems in China" November 17 at 4 p. m. in the Memorial Institutes Building, Madison. Dr. Hou, a medical graduate of Pekin University, has done graduate work at McGill University and now is working in the biochemistry department of the University of Wisconsin before returning to China.

Annual Preceptors' Meeting.—The extramural teaching group of preceptors of the University of Wisconsin Medical School, Madison, hold their annual scientific meeting November 19-20. A symposium on "The Human Back and Its Disabilities" will be held in the auditorium of the Service Memorial Institutes Building on November 19. The following day's program includes ward rounds in the Wisconsin General Hospital, departmental conferences and a lecture by Dr. Clinton N. Woolsey, newly appointed Charles Sumner Slichter research professor in neurophysiology.

GENERAL

Society News.—The American Society of Maxillofacial Surgeons, at its annual meeting at Ann Arbor, Mich., September 26-29, elected Dr. Varaztad H. Kazanjian, Boston, president; Dr. Conrad I. Karleen, Minneapolis, vice president; Dr. Casper M. Epsteen, Chicago, secretary, and Dr. Maurice J. Hickey, New York, treasurer.

Survey Finances of Voluntary Hospitals.—The American Hospital Association, at its annual meeting in Atlantic City September 20, announced the formation of fifteen study groups to be known as the Commission of Hospital Finance. A two year study to determine present and future incomes of the voluntary hospitals of the nation will be made. The cost of the study is estimated at $300,000.

Pharmacopoeial Headquarters.—In conformity with instruction and authority of the 1950 Pharmacopoeial Convention, the board of trustees have selected permanent headquarters of the United States Pharmacopoeia at 46 Park Avenue, New York. The new building is within walking distance of Grand Central Station, the Pennsylvania Railroad Station and the Air Lines Terminal on 42nd Street.

Medical Director Appointed.—Dr. George F. Wilkins, Brookline, Mass., became medical director of the New England Telephone and Telegraph Company, Boston, October 1. He had been assistant medical director since 1940 and succeeds Dr. Daniel L. Lynch, retiring after thirty years as the company's first medical director. Dr. Wilkins is a graduate of Harvard Medical School, Boston, 1932, and an assistant in surgery at the Harvard Medical School.

Defective Vision in School Children.—The National Society for the Prevention of Blindness reports that one fifth of all school children have defective vision. The society made a nationwide survey in which questionnaires were submitted to school superintendents and state, county and city officials. Reports were received from twenty-five states. Dr. Franklin M. Foote is executive director of the society. Six hundred schools throughout the country are said to have sight conservation classes.

Railway Surgeons Meeting.—The American Association of Railway Surgeons will hold its national convention, commemorating the sixtieth year of its founding, at the Palmer House, Chicago, November 21-23, under the presidency of Dr. James E. M. Thomson, Lincoln, Neb. Chicago physicians will present a symposium on "Low Back Pain" November 21. There is no registration fee, and all members of the medical profession are invited. At the dinner session Monday evening, Dr. Thomson, will speak on "Recent Observations of Medicine in Central Europe."

Cerebral Palsy Fellowships.—The National Society for Crippled Children and Adults, 11 S. LaSalle St., Chicago 3, will administer a limited number of inservice fellowships for persons specializing in employment problems of victims of cerebral palsy. The fellowships have been made possible by provisions for an annual grant of $5,000 from the Alpha Gamma Delta, international women's college fraternity. Grants will cover expenses including tuition. By surveying public and private counseling and placement agencies, the national society will develop agreements for the training of workers among those agencies about to conduct intensive programs for the physically handicapped.

International Classification of Diseases.—The World Health organization at the end of this year will publish its "Manual of International Classification of Diseases, Injuries and Causes of Death." Since the World Health Organization has no facilities for distributing the manual, the Council on Vital Records and Vital Statistics has agreed to consolidate U. S. orders and distribute the volumes received from the World Health Organization. The price of the first printing of the new classification is $2.50 a set of two volumes, delivered to the purchaser. Orders must be received by December 1 with checks payable to Halbert L. Dunn, M.D., secretary-treasurer, Council on Vital Records and Vital Statistics, % National Office of Vital Statistics, Washington 25, D. C.

Life Insurance Medical Research Grants.—Applications for grants in aid of research on cardiovascular problems to begin in 1949 will be received by the Life Insurance Medical Research Fund up to Jan. 15, 1949. Support is available for physiologic, biochemical and pathologic research which bears on cardiovascular problems, as well as for clinical investigation in this field. Preference is given to fundamental research. About $500,000 will be awarded. Applications for postgraduate fellowships for training in research in 1949-1950 will be received by the fund up to Jan. 1, 1949. An M.D. or Ph.D. degree or the equivalent is required. The annual stipend is $2,500 and $3,500, with larger

amounts in special cases. About twelve fellowships will be available. Later in the year the fund will also offer a number of student (predoctoral) research fellowships for 1949-1950. Both grants and fellowships will become available on July 1, 1949. Further information may be secured from the Scientific Director, Life Insurance Medical Research Fund, 2 East 103d Street, New York 29.

Fischbach Residency Foundation.—This organization has awarded residency appointments to Drs. Robert F. Hall, Flint, Mich., resident in orthopedics at the Children's Hospital, Denver; John S. Chambers Jr., Boston, resident in thoracic surgery, University Hospital, Ann Arbor, Mich.; George L. Torassa Jr., San Francisco, resident in urology, Stanford University Hospitals, San Francisco. The foundation was established early in 1947 by Dr. and Mrs. Howard P. Fischbach, of Cincinnati, through the Educational Fund of Delta Tau Delta fraternity to provide assistance to young men of special merit. The awards are outright gifts to help medical men to take advantage of residency appointments without undue hardship. Specific requirements are that residency be performed in a hospital approved by either the American Medical Association or the American College of Surgeons. The grants are made on the recommendation of a committee of three, Drs. Howard P. Fischbach and Victor W. Fischbach, of Cincinnati, and Dr. Ernest E. Irons, Chicago. The Foundation itself at present provides income sufficient for one award. Individual gifts for the current year have made possible the two additional awards.

FOREIGN

Congress of Acupuncture.—The Third International Congress of Acupuncture will be held in Paris, June 3-5, 1949, at the auditorium of the Geographical Association, 184, Boulevard St. Germain, Paris. President of the congress is Dr. R. de la Fuye, 8, avenue Franklin D. Roosevelt, Paris. The courses in Chinese medicine (acupuncture) will be held at the Room for Biotherapy, 5 rue Paul Baruel, Paris XVe, November 16 and all the following Tuesdays at 9 p. m.

Prize for Essay on Tuberculosis.—One hundred guineas will be awarded for the best essay on "The Control of Tuberculosis in a British Colony." The competition is open to doctors in the British Colonial Medical Service who are not of more than ten years' or less than five years' medical standing, of which at least three years were spent overseas. Essays should reach Dr. Harley Williams, National Association for the Prevention of Tuberculosis, London, not later than March 1, 1949.

Greeks Release Medical Hoard.—Vast quantities of vitally needed medical equipment and supplies hoarded in Greek warehouses were released last year at the insistence of the Public Health Division of the American Aid Mission, according to a *Chicago Tribune* Press Service writer, E. R. Noderer. A warehouse in Canea, Crete, released stocks that had remained untouched for four years. Most of the supplies were shipped in by UNRRA and are currently valued at $4,000,000 to $5,000,000.

The French-American Hospital.—The cornerstone for the French-American Hospital, dedicated to the United States 29th Division, was laid in St. Lo, July 18. Building funds included $140,000 raised by private subscription in America. Part of the ceremony was the unveiling of a bust of Major Thomas D. Howie of Staunton, Va., known as "the major of St. Lo," killed in action along with 1,818 men in his division in the battle of the beaches the day before St. Lo fell. One wing of the hospital will be devoted to the care of children and will be paid for out of receipts from the insurance which covered the Friendship Train's supplies destroyed in a Paris fire last February.

Chinese Medical College Moves to Foochow.—Cheeloo University College of Medicine moved from Tsinan to Foochow in August and opened the autumn semester on October 1. Preclinical work will be carried on in the old Theological School Building on Nantai, while the work of the three upper years will be done in the three mission hospitals, Union Hospital (American Methodist and American Board Missions), Christ's Hospital and Tak Ting Hospital (Church Missionary Society, England). Of these, the two former are situated in the city and the latter on Nantai. The cooperation of the staffs of these hospitals and the help and interest of the Foochow community and the Cheeloo alumni have greatly facilitated the setting up of the medical college in its new surroundings.

Deaths in Foreign Countries

Dr. Gustave Roussy, former rector of the University of Paris and dean of the faculty of sciences, noted for his work in neurology, endocrinology and cancer, died in Paris, September 30, aged 73.——**Dr. Charles M. Wenyon,** London, formerly director of the Wellcome Research Institute, which he had served in a consultant capacity since his retirement in 1944, died in London October 24 at the age of 70. The Theobald Smith Gold Medal of the American Academy of Tropical Medicine was once awarded to Dr. Wenyon.

CORRECTIONS

Hepatic Localization of Emetine.—In the Current Comment by this title in THE JOURNAL, October 23, page 596, the name of the author whose work is reviewed is Dr. Leo G. Parmer, not Palmer as printed erroneously both in the text of the Current Comment and in the footnote at the bottom of the page.

Chloromycetin.—In the editorial on chloromycetin in THE JOURNAL October 9, the following quoted statements appeared in the last paragraph: "According to the daily press even more spectacular therapeutic effects were afterward obtained during an outbreak of epidemic typhus in Bolivia. Details are not yet reported." The work referred to was begun in December 1947 by Drs. Eugene H. Payne and José A. Knaudt, who, together with Dr. Sylvio Palacios, reported their results in *The Journal of Tropical Medicine and Hygiene* of April 1948, previous to which time they reported their results before the Medical Society at La Paz, Bolivia, and before the regional meeting of the American Federation for Clinical Research. Dr. Payne writes that this was the first time this drug was used against human disease.

Dietary Lipids in Tuberculosis.—In the editorial by this title in THE JOURNAL of Oct. 2, 1948, page 366, Dubos and Davis's paper *(Journal of Experimental Medicine* **83**:409, 1946) was said to support the following conclusion: "It seemed probable therefore that dietary lipids might exert either beneficial or deleterious effect in clinical cases, depending on the type of lipid used. This conclusion was tested by Dubos and Davis of the Rockefeller Institute, who studied the growth of Mycobacterium tuberculosis in liquid mediums containing a series of fatty acids. They found that capric, lauric, palmitic and myristic acids were inhibitory at dilutions as high as 1:10,000,000. Growth occurred at concentrations as high as 1:100 with stearic, oleic, linoleic or butyric acids."

Dubos and Davis state that this conclusion not only is unsupported by their paper but is in large part directly contradictory to their findings.

Marriages

NATHANIEL J. PULVER, Brooklyn, to Miss Shirley Thelma Fivel of Mechanicville, N. Y., at Troy, N. Y., recently.

NORMAN U. MESSITER, Oneida, N. Y., to Miss Betty Cobb of Cassapolis, Mich., at Folkstown, Ga., August 14.

MARSHALL HENRY WILLIAMS JR., New Haven, Conn., to Miss Mary Butler of Fieldston, N. Y., August 27.

FRANCIS JOSEPH THOMAS CRILLEY JR., to Miss Edith Louise Rupertus, both of Washington, D. C., August 14.

JOSEPH B. WATROUS JR., to Miss Katharine Stone Couper, both of Binghamton, N. Y., September 4.

JULIUS D. STEIN, Milford, Conn., to Miss Francine Betty Lebenstein of New York, August 22.

HYMAN M. CHERNOFF, New Haven, Conn., to Miss Sulamith Scharfstein of New York, August 29.

GENNADY PLATOFF, New Rochelle, N. Y., to Miss E. Donya Pogrebniak of Binghamton, recently.

GEORGE GREGORY MILES, Downsville, N. Y., to Miss Elizabeth Julia Palmer of Walton, August 14.

JOHN R. HARRIE, Grey Eagle, Minn., to Miss Jean Christy of Jamestown, N. D., September 2.

HENRY H. FETTERMAN, Allentown, Pa., to Miss Marian Harer of Upper Darby, June 19.

JOSEF R. MARTIN to Miss Jeanne Louise McCoy, both of Carroll, Iowa, August 28.

ABRAHAM J. GORDAY, Chicago, to Miss Carmel Dunford in Eustis, Fla., August 22.

ALEXANDER J. KELLY JR., to Miss Mary Ann Hard, both of Brooklyn, August 14.

EUGENE SMITH to Miss Marvel Holck, both of Waterloo, Iowa, September 3.

Deaths

Philip Kingsnorth Gilman ✠ San Francisco; born in 1879; Johns Hopkins University School of Medicine, Baltimore, 1905; clinical professor of surgery, emeritus, Stanford University School of Medicine; at one time on the faculty of the University of the Philippines College of Medicine in Manila, where he was on the staff of the Philippine General Hospital; member of the founders group of the American Board of Surgery; past president of the California Medical Association and the San Francisco County Medical Society; member and past president of the Pacific Coast Surgical Association; fellow of the American College of Surgeons; served during World War I; during World War II a captain in the medical corps of the U. S. Naval Reserve, serving as district medical officer of the Twelfth Naval District; chief of the bureau of hospitals, state public health department; died in Stanford University Hospital September 7, aged 69.

Edward Peter Heller ✠ Kansas City, Mo.; born at Allentown, Pa., on Oct. 30, 1892; Jefferson Medical College of Philadelphia, 1916; member of the American Association of Industrial Physicians and Surgeons, of which he had been vice president; past president and co-founder of the Association of Railway and Industrial Physicians and Surgeons of Kansas City; formerly councilor of the Seventh District of the Missouri State Medical Association; served overseas during World War I; affiliated with Kansas City General and Research hospitals; in 1923 was awarded the Alvarenga Prize by the Philadelphia College of Physicians for his essay entitled "Treatise on Echinococcus Disease"; served as editor and co-editor of the *Jackson County Medical Society Weekly Bulletin;* died in Chadron, Neb., August 19, aged 55, of injuries received in an automobile accident.

William J. Mellinger, Santa Barbara, Calif.; born in 1886; Chicago College of Medicine and Surgery, 1913; served as associate professor of anatomy at the University of Southern California School of Medicine in Los Angeles; specialist certified by the American Board of Otolaryngology; member and formerly vice president of the American Academy of Ophthalmology and Otolaryngology; member of the American Medical Association and the American Laryngological, Rhinological and Otological Society; member and past president of the Pacific Coast Oto-Ophthalmological Society; past president of the Santa Barbara County Medical Society; affiliated with the Santa Barbara Cottage, Santa Barbara General and St. Francis hospitals; died August 28, aged 61, of coronary thrombosis.

Alfred John Murrieta ✠ Los Angeles; born in Temecula, Calif., Nov. 30, 1876; University of Southern California College of Medicine, Los Angeles, 1899; associate clinical professor of surgery at his alma mater; formerly on the faculty of the College of Medical Evangelists; specialist certified by the American Board of Surgery; member and formerly vice president of the American Proctologic Society; fellow of the American College of Surgeons; president of the Southern California Proctologic Society; affiliated with the Los Angeles County, St. Vincent's and Cedars of Lebanon hospitals and the Hospital of the Good Samaritan; died August 6, aged 71, of cardiovascular disease, following an abdominal operation.

Vera Viola Norton ✠ Waverly, Iowa; Northwestern University Woman's Medical School, Chicago, 1899; fellow of the American College of Chest Physicians; member of the American Trudeau Society, National Tuberculosis Association and the American Association of University Women; in 1945 the medical library at Dunham Hospital in Cincinnati was named in her honor; on the staff of the Edward Sanatorium in Naperville, Ill., from 1913 to 1917, when she joined the Hamilton County Tuberculosis Sanatorium in Cincinnati, where she retired in 1941 as associate medical director; died in St. Joseph's Mercy Hospital August 11, aged 71, of metastatic carcinoma.

Edward Leland Kellogg ✠ New York; College of Physicians and Surgeons, medical department of Columbia College, New York, 1895; on the faculty of the New York Polyclinic Medical School and Hospital; fellow of the American College of Surgeons; member of the New York Academy of Medicine and the New York Gastro-Enterological Society; served on the staffs of Gouverneur, Manhattan General, St. Bartholomew and Broad Street hospitals; visiting surgeon at the New York Polyclinic Medical School and Hospital, where he died August 11, aged 76, of diabetes mellitus and hepatitis.

Wilfred Eugene Alton, Fort Dodge, Iowa; Chicago Homeopathic Medical College, 1896; died July 10, aged 85.

Cyril Barnert, Westbury, N. Y.; New York University College of Medicine, 1939; member of the American Medical Association; served during World War II; died July 27, aged 32.

Edward Berg, Chicago; Chicago Medical School, 1921; died in September, aged 72.

George Carlton Berkley ✠ St. Albans, Vt.; University of Vermont College of Medicine, Burlington, 1894; formerly associated with the U. S. Public Health Service; awarded a gold fifty year service pin by the Franklin County Medical Society; died in the Mary Fletcher Hospital in Burlington, September 1, aged 78, of heart disease.

William Francis Bowen, Topeka, Kan.; Kansas Medical College, Medical Department of Washburn College, Topeka, 1898; member of the American Medical Association, serving as a member of its House of Delegates in 1934 and 1935; past president of the Kansas Medical Society; fellow of the American College of Surgeons; formerly on the faculty of his alma mater; on the staff of the Christ Hospital; received the honorary degree of master of surgery from Washburn College in 1913; died July 25, aged 76.

Kenneth Warren Buell ✠ Eaglebridge, N. Y.; Atlanta College of Physicians and Surgeons, 1910; Fordham University School of Medicine, New York, 1914; died August 21, aged 63.

Emmett Duane Carmalt, Pittsburgh; Hahnemann Medical College and Hospital of Philadelphia, 1926; member of the American Medical Association; affiliated with the Shadyside Hospital; died August 24, aged 54, of injuries received in an automobile accident.

William Benjamin Chamberlin, Baton Rouge, La.; Medical Department of Tulane University of Louisiana, New Orleans, 1906; member of the American Medical Association; served in France during World War I; since Aug. 16, 1941 medical director and chief of surgical service at Louisiana State University; affiliated with Our Lady of the Lake Sanitarium and Baton Rouge General Hospital; died July 29, aged 69.

John August Christenson ✠ Chicago; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1905; formerly president of the board of directors of the Augustana College in Rock Island; on the staff of the Augustana Hospital; died September 13, aged 76, of bilateral pyelonephritis and uremia.

Frank Emerson Farmer, St. Johnsbury, Vt.; University of Vermont College of Medicine, Burlington, 1899; past president of the Vermont State Medical Society and the Vermont State Board of Medical Registration; member of the American Medical Association; past president of the Northeastern County Medical Society; president and director of the Citizens Savings Bank and Trust Company; died August 8, aged 74, of carcinoma of the lung.

Harry Leland Fifield ✠ Syracuse, N. Y.; New York Homeopathic Medical College and Hospital, New York, 1906; formerly superintendent of the Onondaga General Hospital; died August 19, aged 67, of cerebral hemorrhage, fracture of hip due to a fall and arteriosclerosis.

Rowland Houghton Ford, Washington, D. C.; Columbian University Medical Department, Washington, 1900; member of the American Medical Association; served during World War I; formerly passed assistant surgeon in the U. S. Public Health Service reserve and assistant health officer of the District of Columbia; died in the Doctors Hospital August 23, aged 73, of coronary heart disease.

Ray Samuel Friedley ✠ Akron, Ohio; Starling-Ohio Medical College, Columbus, 1911; specialist certified by the American Board of Pediatrics, Inc.; member of the American Academy of Pediatrics; associated with the medical department of the Goodyear Tire & Rubber Company; past president of the Summit County Medical Society; served on the staffs of Children's Hospital and City Hospital, where he died August 1, aged 60, of cardiac decompensation.

Edward Louis Friedman ✠ Forest Hills, N. Y.; Cornell University Medical College, New York, 1906; died August 9, aged 63, of coronary thrombosis.

Lee Burton Furgerson ✠ Waterloo, Iowa; State University of Iowa College of Medicine, Iowa City, 1925; died in St. Francis Hospital August 9, aged 49, of cerebral hemorrhage and peritonitis.

Angelo Adam Gallo ✠ Pottstown, Pa.; Hahnemann Medical College and Hospital of Philadelphia, 1926; affiliated with Pottstown Hospital, where he died August 14, aged 48, of coronary occlusion.

Clifford Jackson Gay, Jacksonville, Fla.; University of Georgia School of Medicine, Augusta, 1936; member of the American Medical Association; interned at the James M. Jackson Memorial Hospital in Miami; served as a captain in the medical corps, Army of the United States, during World War II; died August 5, aged 43.

Omer Rand Gillett ✠ Colorado Springs, Colo.; Jefferson Medical College of Philadelphia, 1902; past president of the El Paso County Medical Society; member of the American Public Health Association; city health officer; served during World War I; affiliated with the Glockner Sanatorium and Hospital, St. Francis Hospital and Sanatorium and the Memorial Hospital; died July 9, aged 73.

John Conrad Gross, Phoenicia, N. Y.; Columbia University College of Physicians and Surgeons, New York, 1899; died August 10, aged 70, of cerebral hemorrhage.

Conrad K. Hahn, Racine, Wis.; Medizinische Fakultät der Universität Wien, Austria, 1895; member of the American Medical Association; died in St. Luke's Hospital August 19, aged 79, of arteriosclerotic heart disease.

Maurice Edmund Harwood, Pittsburgh; University of Pittsburgh School of Medicine, 1936; member of the American Medical Association; died July 16, aged 44.

Albert H. Haworth, Troy, Ohio; Starling Medical College, Columbus, 1896; member of the American Medical Association; died July 30, aged 78, of heart disease.

Maurice Edward Healy, Niagara Falls, N. Y.; Loyola University School of Medicine, Chicago, 1937; died July 17, aged 38, of cardiovascular disease and cerebral hemorrhage.

Horace L. Heistand, Springfield, Ohio; Medical College of Ohio, Cincinnati, 1891; member of the American Medical Association; died July 6, aged 82, of uremia and arteriosclerosis.

William Walter Massey Henry, Dover, Del.; Howard University College of Medicine, Washington, D. C., 1909; affiliated with Kent General Hospital; died July 19, aged 66, of carcinoma of the colon.

Horace Bruce Hetrick, Wellsville, Pa.; University of Maryland School of Medicine, Baltimore, 1888; died August 11, aged 81, of arteriosclerosis.

Beeler David Higbee, Grosse Pointe, Mich.; University of Louisville (Ky.) Medical Department, 1908; died August 3, aged 65, of tumor of the lung.

George Jacob Hinn, Highland Park, Ill.; Illinois Medical College, Chicago, 1904; member of the American Medical Association; died in St. Francis Hospital, Evanston, Ill., August 8, aged 75, of coronary thrombosis.

Matthew J. Hoenig, Rochester, N. Y.; University of Buffalo School of Medicine, 1919; member of the American Medical Association; fellow of the International College of Surgeons; on the staffs of St. Mary's and Highland hospitals; died August 5, aged 55, of cerebral hemorrhage.

Archie Solomon Horn ✠ Rib Lake, Wis.; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1903; member of the New Mexico Medical Society; served as health officer of Rib Lake; a captain in the medical corps of the U. S. Army during World War I; died August 22, aged 67, of cerebral vascular accident.

Irwin Wilson Howard ✠ Aurora, Ill.; Ohio Medical University, Columbus, 1904; died in the Copley Memorial Hospital August 2, aged 69, of arteriosclerotic heart disease.

Charles David Huber, Charlotte, Mich.; Detroit College of Medicine, 1901; member of the American Medical Association; past president of the Eaton County Medical Society; affiliated with the Hayes-Green-Beach County Memorial Hospital; died September 1, aged 71, of heart disease.

Irving Emerson Hunt ✠ Clarksville, Tenn.; University of Nashville Medical Department, 1907; died July 27, aged 67, of carcinoma of the stomach.

William Butler Hunt, Terre Haute, Ind.; Central College of Physicians and Surgeons, Indianapolis, 1901; member of the American Medical Association; formerly county health officer; died July 31, aged 87, of heart disease.

Orton Charles Hyslop, Spring Valley, Ill.; Northwestern University Medical School, Chicago, 1916; served during World War I; died in People's Hospital, Peru, July 28, aged 56, of coronary thrombosis and hypoadrenalism.

George Hills Iler, Brooklyn; New York Homeopathic Medical College and Hospital, New York, 1890; fellow of the American College of Surgeons; for many years affiliated with Cumberland Hospital; visiting surgeon to the Carson C. Peck Memorial Hospital; died August 11, aged 80, of carcinoma of the bladder.

Matthew William James, Bensenville, Ill.; Reliance Medical College, Chicago, 1911; village health officer; affiliated with the Memorial Hospital, Elmhurst, and the Walther Memorial Hospital in Chicago, where he died August 25, aged 66, of general peritonitis following an operation.

James Morton Jenkins, Cortland, Ind.; Kentucky School of Medicine, Louisville, 1891; member of the American Medical Association; died at Norways Sanatorium, Indianapolis, July 9, aged 83, of coronary thrombosis.

Allen Jones Jervey ✠ Tryon, N. C.; Medical College of the State of South Carolina, Charleston, 1905; past president of the Polk County Medical Society; served during World War I; affiliated with St. Luke's Hospital, where he died August 25, aged 67, of uremia.

Wilbur Vogt Johnson, Chicago; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1902; member of the American College of Chest Physicians; served on the staff of the City of Chicago Municipal Tuberculosis Sanitarium; died in the Belmont Hospital August 29, aged 70, of carcinoma of the stomach.

Jerry M. Jones ✠ Bay City, Mich.; Michigan College of Medicine and Surgery, Detroit, 1896; chief surgeon for the Detroit Mackinaw Railway; for many years operated the Jones Clinic; medical director of the Bay City Samaritan Hospital; died August 9, aged 77, of heart disease.

Oliver P. Judkins, Indianola, Iowa; College of Physicians and Surgeons, Keokuk, 1895; Rush Medical College, Chicago, 1898; an examiner of the county draft board during World War I; died in Methodist Hospital, Des Moines, August 9, aged 77, of hypertensive cardiovascular disease.

Aquin Sarsfield Kelly ✠ New York; Columbia University College of Physicians and Surgeons, New York, 1900; past president of the New York Ophthalmological Society; specialist certified by the American Board of Ophthalmology; affiliated with Meadowbrook Hospital, Hempstead, St. Joseph Hospital, Far Rockaway, New York Eye and Ear Infirmary and St. Vincent's Hospital; died in the Nassau Hospital, Mineola, July 20, aged 71, of carcinoma of the lung.

John Martin Kinnunen, Meadville, Pa.; University of Pennsylvania School of Medicine, Philadelphia, 1931; interned at the Mercy Hospital in Pittsburgh; member of the American Medical Association; served in the medical corps, Army of the United States, during World War II; medical inspector for the school district, served as county medical director; affiliated with Meadville City Hospital and Spencer Hospital, where he died July 9, aged 43, of myocarditis.

Wilmer Carroll Kipe, Philadelphia; Hahnemann Medical College and Hospital of Philadelphia, 1905; died recently, aged 69, of coronary heart disease and diabetes mellitus.

Samuel M. Klaristenfeld ✠ New York; New York Medical College and Flower Hospital, New York, 1930; served during World War II; affiliated with Flower and Metropolitan hospitals; died July 11, aged 43, of pemphigus and heart disease.

Willard Daniel Kline ✠ Allentown, Pa.; Jefferson Medical College of Philadelphia, 1901; fellow of the American College of Physicians; past president of the Lehigh County Medical Society; for many years affiliated with the Sacred Heart Hospital; died August 9, aged 71, of carcinoma of the larynx, diabetes mellitus and hypertensive cardiovascular disease.

Heilner Maxwell Langdon ✠ Philadelphia; University of Pennsylvania Department of Medicine, Philadelphia, 1901; specialist certified by the American Board of Ophthalmology; served as professor of ophthalmology at the Medico-Chirurgical College, Graduate School of Medicine, University of Pennsylvania; member of the American Ophthalmological Society; affiliated with the University, Children's and Presbyterian hospitals; died in Hampton, N. H., August 28, aged 72, of angina pectoris.

Dwight Milton Lewis ✠ New Haven, Conn.; Johns Hopkins University School of Medicine, Baltimore, 1901; member of the American Public Health Association; served during World War I; at one time director of rural health in the West Virginia State Department of Health; formerly epidemiologist for the city department of health; died in the New Haven Unit, Grace-New Haven Community Hospital, August 31, aged 73, of coronary occlusion.

James Marshall Lilly, Fayetteville, N. C.; University College of Medicine, Richmond, 1903; member of the American Medical Association; fellow of the American College of Surgeons; served as president of the North Carolina Eye, Ear, Nose and Throat Society; on the staff of the Highsmith Hospital, where he died August 1, aged 70, of sarcoma of the lung.

Richard Mitchell Little ✠ Surgeon, Lieutenant Commander, U. S. Navy, retired, Dallas, Texas; Columbian University Medical Department, Washington, D. C., 1902; entered the U. S. Navy on Dec. 21, 1920; retired Oct. 1, 1941; died September 3, aged 69, of coronary occlusion.

Finis London, Woodburn, Ky.; University of Tennessee Medical Department, Nashville, 1900; Hospital College of Medicine, Louisville, 1901; member of the American Medical Association; died July 23, aged 74, of hypertension and heart disease

Henry Edmund Lynch, Holyoke, Mass.; Tufts College Medical School, Boston, 1911; served during World War I; on the staff of Providence Hospital; died August 9, aged 61, of coronary thrombosis.

Carroll Edward McCarthy, Clinton, Tenn.; University of Tennessee College of Medicine, Memphis, 1940; member of the American Medical Association; served during World War II; died in St. Mary's Hospital, Knoxville, August 20, aged 29, of heart disease.

Alexander Hancock McChrystal, Salt Lake City; University of Pennsylvania Department of Medicine, Philadelphia, 1901; died August 28, aged 72.

Neil James McColl, Port Huron, Mich.; Medical College of Indiana, Indianapolis, 1898; member of the American Medical Association; formerly mayor of Whittemore and of Croswell; died July 25, aged 71, of cerebral hemorrhage.

Grant McDonald, Detroit; Detroit College of Medicine, 1900; member of the American Medical Association; affiliated with the Florence Crittenton and Children's hospitals; died in the Harper Hospital August 23, aged 78, of carcinoma of the bladder.

James Mahlon McElroy, Alabama City, Ala.; University of the South Medical Department, Sewanee, Tenn., 1901; member of the American Medical Association; died July 21, aged 73.

Harvey Benton McGarrah ✠ Fairbank, Pa.; Baltimore Medical College, 1893; died in the Uniontown (Pa.) Hospital August 24, aged 82, of arteriosclerosis.

Eben Seton McIntosh ✠ Burns, Kan.; University of Wooster Medical Department, Cleveland, 1894; died in Newton August 7, aged 81, of bronchopneumonia.

Daniel B. Mark ✠ Minneapolis; Barnes Medical College, St. Louis, 1909; on the staffs of the Asbury and Eitel hospitals; died in Northwestern Hospital July 4, aged 61, of acute coronary thrombosis.

Charles Wesley Mattison, Temple City, Calif.; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1904; member of the American Medical Association; served on the staff of the French Hospital in Los Angeles; died August 26, aged 74, of Parkinson's disease and bronchopneumonia.

Louis Henry Mayer Jr. ✠ Johnstown, Pa.; Jefferson Medical College of Philadelphia, 1913; past president of the Cambria County Medical Society; served during World War I; consultant on the staffs of the Pennsylvania State Tuberculosis Sanatorium in Cresson and the Municipal Hospital; affiliated with Mercy Hospital and Conemaugh Valley Memorial Hospital, where he died July 10, aged 58.

John Earle Meloy ✠ Peoria, Ill.; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1900; affiliated with Methodist Hospital; died in Grand Rapids, Minn., August 4, aged 77, of arteriosclerosis.

Edgar Benjamin Merwin, Manlius, N. Y.; University of the City of New York Medical Department, New York, 1891; member of the American Medical Association; served as village health officer and school physician; died July 7, aged 82, of coronary thrombosis.

Roy Heape Milligan ✠ St. Louis; St. Louis University School of Medicine, 1915; member of the American Academy of Ophthalmology and Otolaryngology; specialist certified by the American Board of Otolaryngology; assistant professor of clinical otolaryngology at his alma mater; affiliated with St. Mary's Group of Hospitals; died in August, aged 58, of heart disease.

Charles Willard Mims, Greenville, S. C.; Medical College of the State of South Carolina, Charleston, 1943; member of the American Medical Association; interned at Greenville General Hospital; died July 24, aged 30.

Walter N. Miner, Calais, Me.; Baltimore Medical College, 1898; member of the American Medical Association; fellow of the American College of Surgeons; served as mayor, alderman, state senator and representative; for many years president of the chamber of commerce; died July 15, aged 76, of angina pectoris.

John Henry Moore, Delaware, Ark. (licensed in Arkansas in 1903); member of the American Medical Association; died July 16, aged 78, of arteriosclerosis and coronary heart disease.

John Henry Moore, Fort Smith, Ark.; Meharry Medical College, Nashville, Tenn., 1898; died July 24, aged 84, of senility.

James W. Morrow, Portland, Ore.; Kansas City (Mo.) Medical College, 1892; died July 4, aged 91, of senility.

Bernard Joseph Mulcahy, Poughkeepsie, N. Y.; University of Vermont College of Medicine, Burlington, 1937; certified by the National Board of Medical Examiners; member of the American Medical Association; served as a flight surgeon overseas during World War II; served a residency at Brooklyn Eye and Ear Hospital; interned at the Vassar Brothers Hospital, where he was a clinical assistant; affiliated with St. Francis Hospital; died August 21, aged 36, of coronary thrombosis.

Raymond William Mullen ✠ Sioux Falls, S. D.; John A. Creighton Medical College, Omaha, 1902; fellow of the American College of Surgeons; served during World War I; died recently, aged 69, of cerebral hemorrhage.

Eugene Bernhard Munier, Martin, Ky.; National University of Arts and Sciences Medical Department, St. Louis, 1915; served during World War I; died July 21, aged 67, of coronary occlusion.

Zollie Thompson Norman, Philadelphia; University of Texas Medical Branch, Galveston, 1947; interned at the Philadelphia General Hospital; died in Hempstead, Texas, July 5, aged 23, of Hodgkin's disease.

Roy Bartlett Nutter, Tegucigalpa, Honduras, Central America; Tufts College Medical School, Boston, 1908; died August 8, aged 63, of cerebral hemorrhage.

Philip Daniel O'Connor ✠ Chicago; Loyola University School of Medicine, Chicago, 1925; member of the American Academy of Ophthalmology and Otolaryngology; specialist certified by the American Board of Ophthalmology; affiliated with the Wesley Memorial Hospital, where he died September 5, aged 51, of portal cirrhosis of the liver and bronchopneumonia.

Thomas Francis O'Loughlin, Rockville, Conn.; New York University Medical College, New York, 1896; member of the American Medical Association; served as health officer for the town of Vernon and medical examiner for the towns of Ellington, Vernon and Tolland; for many years member of the board of education; on the staff of Rockville City Hospital; died August 8, aged 76, of lethargic encephalitis.

Richard Henry Simmons, Shamokin, Pa.; University of Pennsylvania Department of Medicine, Philadelphia, 1893; an officer during World War I; for many years county medical director; died July 31, aged 79, of myocarditis and hypertension.

Morgan Smith, Jennings, La.; Vanderbilt University School of Medicine, Nashville, Tenn., 1906; member of the American Medical Association; president of the Jefferson Davis Parish Medical Society; for many years county coroner; died July 11, aged 65, of coronary thrombosis.

Harvey B. Speer ✠ Coraopolis, Pa.; Western Pennsylvania Medical College, Pittsburgh, 1903; past president and chief of medical staff of the Sewickley Valley Hospital, Sewickley; died July 30, aged 74, of carcinomatosis.

Eugene Charles Stern ✠ Cleveland; Georg August-Universität Medizinische Fakultät, Göttingen, Prussia, Germany, 1919; member of the American Academy of Dermatology and Syphilology; on the staff of the Huron Road Hospital, East Cleveland; died July 12, aged 54, of coronary occlusion.

Clifford John Stricker ✠ Marseilles, Ill.; Northwestern University Medical School, Chicago, 1928; died in Queen of Angels Hospital, Los Angeles, July 24, aged 50, of lymphoblastoma of the mediastinum.

John Clifton Taylor ✠ New London, Conn.; University of Michigan Department of Medicine and Surgery, Ann Arbor, 1891; served on staff of Lawrence Memorial Hospital, where he died July 14, aged 79, of arteriosclerotic heart disease.

Henry Muir Thelen, Vacaville, Calif.; Johns Hopkins University School of Medicine, Baltimore, 1941; interned at the San Francisco Hospital; member of the American Medical Association; died in the Herrick Memorial Hospital, Berkeley, July 27, aged 31, of aortic stenosis and rheumatic heart disease.

Harold A. Thompson ✠ San Diego; University of Southern California College of Medicine, Los Angeles, 1906; member of the American Society of Clinical Pathologists; affiliated with Mercy Hospital, where he died, July 31, aged 64, of arteriosclerotic heart disease, hypertension and diabetes mellitus.

Albert Leopold Wahl, Oneonta, N. Y.; McGill University Faculty of Medicine, Montreal, Canada, 1935; member of the American Medical Association; served overseas during World War II; died in Mount Vision, July 1, aged 41.

Marion McDowell Webster, Ada, Okla.; St. Louis College of Physicians and Surgeons, 1905; served overseas during World War I; died July 6, aged 72, of coronary occlusion.

Foreign Letters

LONDON

(From Our Regular Correspondent)

Oct. 9, 1948.

The Waste of Time and Material Under Medical Socialism

The waste of the doctor's time under medical socialism has been described in previous letters. With the onset of colder weather, doctors now complain they are so flooded with patients under the National Health Service that they have not time for the examination of serious cases. Hypochondriacs and persons who have only such ailments as slight colds, for which they would not trouble a doctor if they had to pay, come in numbers. At the first annual meeting of the Executive Councils' Association of the National Health Service the Minister of Health, Mr. Bevan, confirmed this waste and referred to other forms of waste as follows: "Because things are free is no reason why people should abuse their opportunities. This is a very great test of the maturity of the British people, in so far as they have all the resources of the medical profession at their disposal without charge. The general practitioner has a very great responsibility. Over-prescribing can be as bad as under-prescribing. Some general practitioners are very conscious of the impressiveness of long lists of drugs in their prescriptions on the psychology of their patients. We want the general practitioner to prescribe what he believes is necessary, and put nothing in his way. But we want to impress on him that it is not a good thing to evoke merely a psychologic response by prescribing too expensive drugs."

Mr. Bevan said that so far the services had operated reasonably smoothly and had been enthusiastically received by the vast mass of the population. Some things—not many—had gone wrong. Large numbers were making use of the free services. It seemed that an extraordinary proportion of the population had bad sight. The rush for spectacles had been so great that it had overtaken productive capacity. He was gratified that 18,165 of the general practitioners in the country had joined the service and that 92 per cent of the population were now on doctors' lists. The total was increasing daily, and he expected that by the end of the year practically all would be participating in the scheme. The number of dentists taking part had grown to over 80 per cent. By September 17 1,000,000 persons had sought dental treatment. The number of prescriptions dispensed was phenomenal, and the rate was twice that under the previous National Health Insurance scheme. If the rate were maintained it would mean that 140,000,000 to 150,000,000 prescriptions would be dispensed annually. Addressing the Institute of Arbitrators, Lord Horder drew a very different picture of the National Health Service. He deplored the lowering of the standards of the medical profession which had resulted from the passing of the Health Act. When doctors signed on the dotted line they capitulated not from conviction but from economic necessity. The implementation of the Act was being proved entirely premature. The health benefits were not available; health centers not only did not exist but would not exist for a considerable time. The Act had been a severe blow to the standard of medical practice in this country. It would be rather grotesque if medicine had to go back to the middle ages and form a guild of doctors to see that the standard of medical treatment was kept at a level to which the community was entitled.

Vitrellae

A new word has been added to the terminology of pharmacy. The Joint Formulary Committee of the British Medical Association and the Pharmaceutical Society, which is engaged in compiling a National Formulary, has been seeking a term for those therapeutic agents which are inhaled from a crushed glass capsule. In order to distinguish them from the "vapores" (inhalations), which form a distinctive group, the word "vitrellae" (crushable glass capsules) has been chosen. This title will be used in the National Formulary for medicaments enclosed in glass capsules covered with protective fabric and intended to be inhaled after crushing the capsule; e. g., Vitrella Amylis Nitritis.

Cars for the Disabled

Among the new means for the rehabilitation of the disabled are Ford-Anglia 8 horse power cars specially adapted to the needs of exservice men and ordered by the Ministry of Pensions. The front seats can be slid right back to allow easy entry and exit for drivers with artificial limbs. Many of them have special clutch, accelerator and brake controls beneath the steering wheel.

MADRID

(From Our Regular Correspondent)

Oct. 1, 1948.

National Interest in Gerontology

A chair on geriatrics was established at the Valencia University, in 1946, with Dr. M. Beltrán Baguena as its head. The Sociedad Española de Gerontología was recently established; it was created on motion of the Superior Council of Scientific Research. Dr. Beltrán Baguena, a professor of medical pathology, and his collaborators have carried on studies on the subject since 1936. His book, "Lecciones de Geriatría," contains lectures on the subject as they were taught by the author at the Valencia University, where geriatrics is now an obligatory subject of study. The inaugural meeting of the new society was held in Madrid, with Drs. Korenchewsky of London and Marañón of Spain as special guests. In the course of the meeting the official topics to be discussed in the First National Meeting of the Society of Gerontology of Spain were assigned. The national meeting will be held at Madrid this winter. The official speakers will be Dr. Pañella Casas, "Senile Changes of the Spine"; Dr. Navarro Gutiérrez, "Senile Tuberculosis," and Dr. Grande Cobián, "Metabolism of Carbohydrates in Senility." By a motion of Dr. Beltrán Baguena, it was resolved that the general activities of the society should mainly cover the fields of senile clinical pathology, biologic researches, demographic studies and studies for protection of the aged.

National interest in gerontology during the last few years is evident. There are important centers in various hospitals. The following are the most important: geriatric department at the Hospital Municipal de Nuestra Señora de la Esperanza in Barcelona, a very good hospital, with an excellent staff, beautiful buildings and complete up-to-date equipment. Drs. Vandrell and Martínez González are the director of the hospital and the head of the department of cardiology, respectively. Dr. Beltrán Baguena is the head of the hospital geriatric department. It was in this department that Dr. Pañella Casas organized a postgraduate course of lectures on geriatrics this year. These lectures will be published in a volume in the near future.

Dr. G. Marañón of the Instituto de Patología Médica of the General Hospital of Madrid recently established a department of geriatrics in the institute. Dr. F. Vega Díaz is the head of the department. Researches to be carried on in the department will mainly cover geriatric fields concerning endocrine and cardiologic subjects. This department will be open in October. There will be an inaugural Geriatric Week in which well known geriatric physicians of Spain and of some foreign countries will participate. During the following term of universitarian courses there will be a weekly lecture on geriatric topics. In the regular course of endocrinology in the chair of Dr. G. Marañón there will be regular lessons on endocrine geriatrics.

The National Department of Public Health recently created a permanent division which is dedicated only to sociologic

research in the field of gerontology. The Sociedad Española de Gerontología will organize regular periodic geriatric lectures which will be delivered by foreign geriatric physicians who will be invited for this purpose. These lectures will begin in the near future. The studies on geriatrics in Spain are to be published in a supplemental issue of *Medicina Española*, which is edited in Valencia.

PALESTINE

(From Our Regular Correspondent)

JERUSALEM, Sept. 22, 1948.

Infectious Hepatitis in Pregnancy

B. Zondek and Y. M. Bromberg of Jerusalem made a study of infectious hepatitis in pregnancy during an epidemic of this disease which occurred in Palestine in the course of World War II.

Surprisingly few data have been reported during recent years when this disease complicated pregnancy. There is a tendency among obstetricians to consider infectious hepatitis in its sporadic form (hitherto known as catarrhal jaundice) as an essentially benign disease never leading to serious complications. Jaundice complicating pregnancy which leads rapidly to acute necrosis of the liver is generally considered as a particularly severe form of toxemia of pregnancy. In such cases the infective cause seems often to be overlooked, leading to misinterpretations in the diagnosis and prognosis. The clinical data reported in this study point out the fact that the benign icterus catarrhalis and the extremely serious form of hepatitis with acute liver atrophy in pregnancy should be considered as the same disease, both caused by the icterogenic virus of infectious hepatitis.

Twenty-nine patients suffering from infectious hepatitis were observed among 3,382 pregnant women over a period of thirty-two months. Of particular interest is the fact that nonpregnant women affected by hepatitis and considered as sources of contamination in many of the cases described had a mild form of hepatitis; on the other hand, some pregnant women who contracted the disease from them died of acute necrosis of the liver after a particularly severe clinical course.

It has been shown that infectious hepatitis may assume in pregnant women three different clinical courses: (1) hepatitis without jaundice (2 patients), with no clinically apparent jaundice, transitory bilirubinurea and only slight impairment of hepatic function; (2) moderately severe hepatitis (18 cases) which differs from the usual form of the disease by insidious onset with the symptoms of the preicteric stage often misinterpreted as due to pregnancy, rare occurrence of itching and bradycardia and serious functional impairment of the liver; (3) severe hepatitis with a tendency to acute necrosis of the liver (9 cases). Five of the 9 patients died from acute atrophy of the liver. The severity of the disease is indicated by pronounced mental instability, tachycardia, excessive vomiting, subsistence of pain in the liver area and reduction of the liver size; the laboratory examinations show progressive decrease of the urea blood levels, rapidly decreasing total cholesterol and cholesterol ester blood values, hypoglycemia and inadequate estrone inactivation.

In the study of factors contributing to the severity of infectious hepatitis in pregnant women, pregnancy must be considered a decisive factor aggravating the course of the disease. Moreover, undernutrition due to insufficient dietary intake or to excessive vomiting seems to play a particularly important role as an additional aggravating factor. In none of these cases studied was the fetus in utero contaminated by the disease of the mother; the virus of infectious hepatitis does not seem to be able to infect the fetus because either it does not pass the chorionic barrier or it circulates in insufficient amount in the blood to induce infection.

The treatment in cases of severe disease consisted in intravenous administration of essential nutritional factors (carbohydrates, proteins, essential amino acids and vitamins) in high doses. Blood transfusions were frequently administered. Despite treatment, 5 patients died from acute atrophy of the liver. It should be emphasized that although this mortality rate is high, 4 patients presenting symptoms of extremely grave prognostic omen (such as comatose condition, fetor hepaticus, reduction of liver size and laboratory findings of severe liver damage) could be saved.

The outstanding problem in the obstetric treatment of infectious hepatitis in pregnancy is whether artificial interruption of pregnancy should be performed. The results of this study seem to demonstrate that an active attitude is not advisable. The artificial termination of pregnancy made at the onset of the disease might sacrifice the fetus in a case in which the disease may have had a benign clinical course and greatly aggravate the hepatitis by the trauma which it involved. Cases in which there is aggravation of the clinical course after spontaneous abortion or delivery demonstrate that artificial interruption of pregnancy should be discouraged in infectious hepatitis in the interest of both mother and fetus.

Keratitis Rosacea Due to Allergy to Endogeneous Hormones

Allergy is considered to be the cause of a variety of ocular diseases. In general the disturbance is ascribed to hypersensitivity of the ocular tissue to exogeneous proteins.

B. Zondek and Y. M. Bromberg have found that patients suffering from typical allergic symptoms (asthma, vasomotor rhinitis, urticaria, angioneurotic edema) and certain other disorders not usually classified as such (premenstrual tension, pruritus vulvae, migraine) show in a certain percentage of cases hypersensitivity to their own hormones. They called this special kind of hypersensitivity "endocrine allergy."

Recently Zondek, J. Landau and Bromberg suggested that certain eye diseases of still unknown causation may be due to allergy to endogeneous hormones. The lack of any definite knowledge as to the cause of keratitis rosacea led them to test 6 patients suffering from this disease for presence of hormonal allergy. Three men and 3 women with keratitis rosacea associated with rosacea faciei of long duration (four to twenty years) which had proved refractory to the usual methods of treatment were tested by deep intracutaneous injections with various steroid hormones (estrone, estradiol, progesterone, pregnandiol, testosterone, androsterone and corticosterone). The reaction to a steroid hormone was considered positive when, twenty-four to forty-eight hours after injection of 0.1 mg. of steroid hormone dissolved in 0.1 cc. of specially purified olive oil, a red or pink slightly elevated and frequently itching papule occurred at the site of the injection.

The 6 patients with keratitis rosacea were tested with all the aforementioned hormones, with the following results: In all of them hypersensitivity to testosterone only was found. It is remarkable that in all the 6 patients examined (3 men and 3 women) the responsible hormonal allergen was always testosterone. This hormone is produced not only by Leydig's cells of the testes but also by adrenal tissue, and this circumstance probably explains the occurrence of allergy to this substance in mature women.

These descriptions pointing to the etiology of keratitis rosacea as an allergic reaction to the endogeneous testosterone do not exclude the possibility that other endogeneous hormones may act as allergens in some cases and that other causative factors may also be involved. Treatment of hypersensitivity to endogeneous hormones consists of specific desensitization by daily subcutaneous injections of the offending specific hormonal allergen in small and gradually increasing doses and in the present cases with testosterone. The initial dose of testosterone employed in

desensitization should be very small, never exceeding 0.1 mg, and the increase should be gradual; administration of large doses may cause severe exacerbation.

Although therapeutic results in keratitis rosacea must be interpreted with great caution, spontaneous remissions occurring frequently, the results obtained seem to point out that the treatment was specific. The results achieved were as follows: The subjective symptoms such as photophobia, lacrimation and sensation of burning in the eyes, receded promptly and completely; the limbal and corneal vascular dilatation disappeared or considerably improved while the facial rosacea also decidedly improved. Mild recurrences in some instances promptly improved after administration of a second course of testosterone therapy. An effect on the permanent degenerative corneal changes could, of course, not be expected.

Correspondence

NEW PROBLEMS FROM NEW DISCOVERIES

To the Editor:—The excerpt from Sir Lionel Whitby on page 125 of THE JOURNAL for September 11, dealing with the new problems that immediately arise following such scientific discoveries as penicillin, streptomycin and the sulfonamide drugs, is excellent.

An appropriate postscript might be the following well known quotation from Walt Whitman:

"Now understand me well—It is provided in the essence of things, that from any fruition of success, no matter what, shall come forth something to make a greater struggle necessary."

JOHN E. WALKER, M.D., Columbus, Ga.

PHYSICIANS FOR VETERANS ADMINISTRATION

To the Editor:—We are taking the liberty of requesting your assistance in the recruitment of physicians for assignment to Veterans Administration installations in this area of Illinois, Indiana and Wisconsin. At present there is a critical need for physicians in tuberculosis, neuropsychiatry and general medicine.

It is our aim to furnish hospitalized veterans with medical care of the highest caliber. It is our desire that preference be given to the best qualified applicants and that among equally qualified persons, preference be given to veterans.

Salaries of these positions range from $4,479.60 to $10,000 per annum. Specialists certified by American specialty boards are paid an additional allowance of 25 per cent of their base salary. The grades and salaries for which applicants are eligible are determined by a Professional Standards Board, based on the individual applicant's professional background and experience. The age limit for physicians for appointment to positions in the operating service of the Department of Medicine and Surgery is 55.

Advantages of employment with the Veterans Administration are many. Physicians work with, and under the supervision of, some of the best medical men in the country. Consultants in most specialties, or full time physicians with board certification in these specialties, are assigned to our installations; this enables young physicians who have completed residencies to obtain the necessary training leading to board certification. Other advantages are opportunities for advancement, training in the newest medical technic, a liberal retirement plan, and annual or vacation leave of thirty days. Quarters are available at a number of our field installations at a reasonable rate.

The location of Veterans Administration installations, types and bed capacity, are as follows:

Veterans Administration Hospitals	Type	Bed Capacity	Teaching
Danville, Ill.	NP*	2,025	Nonteaching
Downey, Ill.	NP-TB†	2,947	Teaching
Hines, Ill.	GM&S‡	3,233	Teaching
Marion, Ill.	GM&S	176	Nonteaching
Dwight, Ill.	GM&S	286	Nonteaching
Fort Benjamin Harrison, Ind.	GM&S	500	Teaching
Indianapolis	GM&S	349	Teaching
Marion, Ind.	NP	1,924	Teaching
Tomah, Wis.	NP	1,172	Teaching
Waukesha, Wis.	TB	256	Nonteaching
Wood, Wis. (Center)	GM&S	1,463	Teaching

* Neuropsychiatric.
† Tuberculosis.
‡ General medical and surgical.

Any assistance that you can give us in obtaining services of qualified physicians for our medical staffs will be sincerely appreciated. Interested physicians may be referred to this office for additional information and the necessary application blanks or, if they so desire, they may apply directly to the installation where they desire placement.

JOHN L. JOHNSTON,
Director, Personnel Service,
17 N. Dearborn St., Chicago 2, Ill.

Medical Examinations and Licensure

COMING EXAMINATIONS AND MEETINGS

NATIONAL BOARD OF MEDICAL EXAMINERS

NATIONAL BOARD OF MEDICAL EXAMINERS: *Parts I & II.* Various Centers, Feb., June and Sept. 1949. *Part II.* April, 1949. Exec. Sec., Mr. E. S. Elwood, 225 S. 15th St., Philadelphia 2, Pa. *Part III.* Boston & New York, Nov. 9-11, Sec., Dr. J. S. Rodman, 225 S. 15th St., Philadelphia.

EXAMINING BOARDS IN SPECIALTIES

AMERICAN BOARD OF INTERNAL MEDICINE: *Oral.* San Francisco, Feb. 8-10, 1949. Final date for filing application is Dec. 1, 1948. New York City, March 23-25. Final date for filing application is Jan. 2. Philadelphia, June 1-3. Final date for filing application is Jan. 2. *Written.* Oct. 17, 1949. Final date for filing application is May 1. Asst. Sec.-Treas., Dr. W. A. Werrell, 1 W. Main St., Madison 3, Wis.

AMERICAN BOARD OF NEUROLOGICAL SURGERY: *Oral.* Chicago, June 1949. Final date for filing application is Jan. 1949. Sec., Dr. W. J. German, 310 Cedar Street, New Haven, Conn.

AMERICAN BOARD OF OPHTHALMOLOGY: *Written.* Jan. 14. *Oral.* San Francisco, March 21-24; New York, June 11-15; St. Louis, Oct. 15-19; Boston, Dec. Sec., Dr. S. J. Beach, 56 Ivie Rd., Cape Cottage, Maine.

AMERICAN BOARD OF ORTHOPEDIC SURGERY: *Part I.* Various Centers, April & May. Final date for filing application is Dec. 31. Sec., Dr. Francis M. McKeever, 1136 W. 6th St., Los Angeles 14.

AMERICAN BOARD OF OTOLARYNGOLOGY: New York, Spring, 1949. Sec., Dr. D. M. Lierle, University Hospital, Iowa City.

AMERICAN BOARD OF PEDIATRICS: *Oral.* Atlantic City, Nov. 17-19. Sec., Dr. Lee F. Hill, 718 Royal Union Bldg., Des Moines, Iowa.

AMERICAN BOARD OF PHYSICAL MEDICINE: Atlantic City, June 4-5. Final date for filing application is March 15. Sec., Dr. R. L. Bennett, Georgia Warm Springs Foundation, Warm Springs, Ga.

AMERICAN BOARD OF PLASTIC SURGERY: Examinations are given in June and November of each year in the home town of applicants. Sec., Treas., Dr. Louis T. Byars, 400 Metropolitan Bldg., St. Louis, Mo.

AMERICAN BOARD OF PSYCHIATRY & NEUROLOGY: *Oral.* May. Final date for filing application is Feb. 15. Sec., Dr. F. J. Braceland, 102-110 Second Ave., S.W., Rochester, Minn.

AMERICAN BOARD OF SURGERY: *Written.* Various Centers, March 1949. Final date for filing application is Dec. 1. Sec., Dr. J. S. Rodman 225 S. 15th St., Philadelphia.

AMERICAN BOARD OF UROLOGY: Feb. 1950. Sec., Dr. Harry Culver, 7935 Sunnyside Road, Minneapolis 18, Minn.

BOARDS OF MEDICAL EXAMINERS

ALABAMA: *Examination.* Montgomery, June 28-30, 1949. Sec., Dr. D. G. Gill, 519 Dexter Ave., Montgomery.

CALIFORNIA: *Oral.* Los Angeles, Nov. 20-21. Sec., Dr. Frederick N. Scatena, 1020 N Street, Sacramento 14.

COLORADO: * Denver, Jan. 4-7. Final date for filing application is Dec. 18. Sec.-Treas., Dr. W. W. King, 831 Republic Bldg., Denver 2.

CONNECTICUT: * *Examination.* Hartford, Nov. 9-10. Sec., Dr. Creighton Barker, 258 Church St., New Haven. *Homeopathic Examination.* Derby, Nov. 9-10. Sec., Dr. J. H. Evans, 1488 Chapel St., New Haven.

DELAWARE: *Examination.* Dover, Jan. 11-13. *Endorsement.* Jan. 20. Sec., Dr. J. S. McDaniel, 229 S. State St., Dover.

FLORIDA: * *Examination.* Jacksonville, Nov. 28-30. Sec., Dr. Frank D. Gray, 12 N. Rosalind Ave., Orlando.

GUAM: *Endorsement.* Agana, Last Friday of each month. Sec., Capt. C. K. Youngkin, Dept. of Public Health, Guam, % F.P.O. San Francisco, Calif.

HAWAII: *Examination.* Honolulu, Jan. 10-13. Sec., Dr. S. E. Doolittle, 881 S. Hotel St., Honolulu 53.

IDAHO: Boise, Jan. 10-12. Dir., Bureau of Occupational Licenses, Miss Estella S. Mulliner, State House, Boise

INDIANA: *Examination.* Indianapolis, June 1949. Sec., Board of Medical Registration & Examination, Dr. Paul R. Tindall, 416 K. of P. Bldg., Indianapolis.

IOWA: * *Examination.* Des Moines, Dec. 6-8. *Endorsement.* Des Moines, Dec. 6. Sec., Dr. M. A. Royal, 506 Fleming Bldg., Des Moines.

KANSAS: Topeka, Dec. 15-16. Sec., Board of Medical Registration & Examination, Dr. J. F. Hassig, 905 N. 7th St., Kansas City.

KENTUCKY: *Examination.* Louisville, Dec. 13-15. Sec., Dr. Bruce Underwood, 620 S. 3rd St., Louisville 2.

LOUISIANA: *Examination.* New Orleans, Dec. Sec.-Treas., Dr. R. B. Harrison, 1507 Hibernia Bank Bldg., New Orleans 12. *Homeopathic Examination.* Baton Rouge, subject to call. Sec., Dr. F. H. Hardenstein, 715 Pere Marquette Bldg., New Orleans.

MAINE: Portland, Nov. 9-10. Sec., Board of Registration of Medicine, Dr. Adam P. Leighton, 192 State St., Portland.

MARYLAND: *Examination.* Baltimore, Dec. 14-17. *Endorsement.* At the discretion of the Board. Sec., Dr. Lewis P. Gundry, 1215 Cathedral St., Baltimore. *Homeopathic Examination.* Baltimore, Dec. 7-8. Sec., Dr. J. A. Evans, 612 W. 40th St., Baltimore.

MASSACHUSETTS: *Examination.* Boston, Nov. 16-19. Sec., Board of Registration in Medicine, Dr. G. L. Schadt, 413 E. State House, Boston.

MISSISSIPPI: *Reciprocity.* Jackson, Dec. 6. Exec. Officer, State Board of Health, Dr. Felix J. Underwood, Jackson.

NEBRASKA: * *Examination.* Omaha, June. Dir., Bureau of Examining Boards, Mr. Oscar F. Humble, 1009 State Capitol Building, Lincoln 9.

NEVADA: Carson City, Nov. 1. Sec., Dr. G. H. Ross, Industrial Bldg., Carson City.

NEW HAMPSHIRE: Concord, March 10. Sec., Board of Registration in Medicine, Dr. John S. Wheeler, 107 State House, Concord.

NEW YORK: *Examination.* Various Centers, Feb. 1-4. Sec., Dr. J. L. Lochner, Jr., 23 S. Pearl St., Education Bldg., Albany.

NORTH CAROLINA: *Endorsement.* Raleigh, Jan. 17. Sec., Dr. Ivan M. Procter, 226 Hillsboro St., Raleigh.

NORTH DAKOTA: *Examination.* Grand Forks, Jan. 4-7. Act. Sec., Dr. C. J. Glaspel, Grafton.

OHIO: *Examination.* Columbus, Dec. 13-15. Sec., Dr. H. M. Platter, 21 W. Broad St., Columbus.

OREGON: * *Examination.* Jan. 5-7. Final date for filing application is Dec. 22, 1948. *Endorsement.* Jan. 21-22. Final date for filing application is Jan. 3. Exec. Sec., Mr. Howard I. Bobbitt, 608 Failing Bldg., Portland.

PENNSYLVANIA: *Examination.* Philadelphia, Jan., 1949. Act. Sec., Mrs. M. G. Steiner, 351 Education Bldg., Harrisburg.

SOUTH CAROLINA: *Endorsement.* Columbia, Dec. 6. Sec., Dr. N. B. Heyward, 1329 Blanding St., Columbia.

SOUTH DAKOTA: * Pierre, Jan. 18-19. Sec., Dr. G. J. Van Heuvelen, Capitol Bldg., Pierre.

UTAH: *Examination.* Salt Lake City, July. Sec., Dept. of Registration, Miss Rena B. Loomis, 324 State Capitol Bldg., Salt Lake City.

VERMONT: *Examination.* Burlington, Feb. Sec., Dr. F. J. Lawliss, Richford.

VIRGIN ISLANDS: *Examination.* Charlotte Amalie, Dec. 8-9. Comm., Dr. Christian R. Moorhead, Charlotte Amalie.

VIRGINIA: *Examination.* Richmond, Dec. 3-4. *Endorsement.* Dec. 2. Sec., Dr. K. D. Graves, 30½ Franklin Road, Roanoke.

WASHINGTON: * Seattle, Jan. Sec., Dept. of Licenses, Miss Virginia Wotherspoon, Olympia.

WEST VIRGINIA: Charleston, Jan. 3-5. Sec., Public Health Council, Dr. N. H. Dyer, Capitol Bldg., Charleston 5.

WISCONSIN: * Madison, Jan. 11-13, 1949. Sec., Dr. C. A. Dawson, Tremont Bldg., River Falls, Wis.

WYOMING: *Examination.* Cheyenne, Feb. 7. Sec., Dr. Franklin D. Yoder, Cheyenne.

* Basic Science Certificate required.

BOARDS OF EXAMINERS IN THE BASIC SCIENCES

ARIZONA: *Examination.* Tucson, Dec. 21. Sec., Mr. Francis A. Roy, University of Arizona, Tucson.

COLORADO: *Examination.* Denver, Dec. 1-2. Sec., Dr. Esther B. Starks, 1459 Ogden St., Denver 3.

MICHIGAN: *Examination.* Ann Arbor & Detroit, Jan. 14-15. Sec., Miss Eloise LeBeau, 101 N. Walnut St., Lansing.

MINNESOTA: *Examination.* Jan. 4-5, April, June and Oct. Sec.-Treas., Dr. Raymond N. Bieter, 105 Millard Hall, Univ. of Minnesota, Minneapolis.

OKLAHOMA: Spring of 1949. Sec., Dr. Clinton Gallaher, 813 Braniff Bldg., Oklahoma City.

OREGON: *Examination.* Portland, Dec. Sec., Basic Science Examining Committee, Dr. C. D. Byrne, Univ. of Oregon, Eugene.

SOUTH DAKOTA: *Examination.* Vermillion, Dec. 3-4. Sec., Dr. G. M. Evans, Yankton.

TENNESSEE: *Examination.* Memphis, Dec. 30-31. Sec., Dr. O. W. Hyman, 874 Union Avenue, Memphis 3.

WASHINGTON: Seattle, Jan. Sec., Dept. of Licenses, Miss Virginia Wotherspoon, Olympia.

WISCONSIN: *Examination.* Milwaukee, Dec. 4. Final date for filing application is Nov. 27. Sec., Prof. W. H. Barber, Scott & Watson Sts., Ripon.

Bureau of Legal Medicine and Legislation

MEDICOLEGAL ABSTRACTS

Right of Workmen's Compensation Commission to Subpoena Hospital Records.—During the course of a proceeding for an award under the workmen's compensation act, the Maryland Casualty Company petitioned for an order directing the Bellevue Hospital to produce certain hospital records before the Workmen's Compensation Board. From a decision ordering the director of the Bellevue Hospital to produce the hospital records in question, an appeal was taken to the supreme court, appellate division, first department, New York.

Section 119 of the workmen's compensation law provides that "a subpoena or a subpoena duces tecum may be signed and issued by the chairman, a member of the board, referee or such other officer as may be designated by the chairman. . . . Failure to obey such subpoena shall constitute a contempt as provided by the Civil Practice Act." On appeal of this case it was contended that, notwithstanding this section, the workmen's compensation board was without power to issue a subpoena duces tecum directing the production before it of hospital records at a hearing on a claim for compensation filed by the patient-employee. Four grounds were urged in support of this contention.

It was first contended that it is contrary to public policy to order records relating to mental condition to be produced at a hearing on a claim for workmen's compensation. No consideration of public policy, said the court, prevents the proper use by an injured employee of relevant hospital records relating to his mental condition. On the contrary, it would seem to be against public policy to exclude any competent and relevant evidence bearing on the nature and extent of the injuries claimed by the employee and their relation to an accident arising out of and in the course of his employment.

It was next contended that Section 34, Subdivision 9, of the mental hygiene law applied to Bellevue Hospital. This section provides that, on admission of a patient to any state institution in the Department of Mental Hygiene, a record of the case shall be kept by the director of the institution, which "record shall be accessible only to the director and such officers and subordinates of the institution as he may designate and to the commissioner and his representatives, except on the consent of the commissioner or an order of a judge of a court of record." Bellevue Hospital, said the court, is not a state institution, and its records, even if they relate to the mental condition of a patient, do not come within the purview of this section of the mental hygiene law.

The third contention was that Rule 162 of the Rules of Civil Practice requires that hospital records may be ordered produced only on order of a justice of the supreme court on one day's notice to the parties in interest. Clearly, said the court, this provision has no application to a hearing before the workmen's compensation board or a referee thereof on a claim for compensation filed by an injured employee. The rule relates only to an action or a proceeding before a court or a referee thereof. In view of the informal character of the proceedings under the workmen's compensation law, this rule should not be stretched by implication.

Finally, it was contended that under sections 352 and 354 of the civil practice act, the hospital records are privileged. We assume, said the court, that the workmen's compensation board has no right to disregard the statutory physician-patient privilege provided by the civil practice act. The physician-patient privilege, assuming it to apply, is waived, however, when a claim for compensation is not alone filed but is prosecuted by one competent to do so, since the valid prosecution of such a claim necessarily involves the giving of testimony on behalf of the claimant, with respect to the injuries alleged to have been caused by the accident. The privilege is deemed to have been waived as soon as evidence in his behalf is given of the claimant's injuries.

The order requiring the production of such records was reversed, however, because of a procedural question.—*Petition of Maryland Casualty Co., 80 N. Y. S. (2d) 181 (N. Y., 1948).*

Current Medical Literature

AMERICAN

The Association library lends periodicals to members of the Association and to individual subscribers in continental United States and Canada for a period of three days. Three journals may be borrowed at a time. Periodicals are available from 1937 to date. Requests for issues of earlier date cannot be filled. Requests should be accompanied by stamps to cover postage (6 cents if one and 18 cents if three periodicals are requested). Periodicals published by the American Medical Association are not available for lending but can be supplied on purchase order. Reprints as a rule are the property of authors and can be obtained for permanent possession only from them.

Titles marked with an asterisk (*) are abstracted below.

American J. Digestive Diseases, Fort Wayne, Ind.

15:213-252 (July) 1948

Genus Shigella and Shigellosis. E. Neter.—p. 213.
Statistical Analysis of Deaths from Diabetes in District of Columbia for Period of 42 Years—1903-1944 inclusive: Preliminary Report and Analysis: Comparison of Two-5 Year Periods.—1903-1907 and 1940-1944. J. A. Reed.—p. 233.
Dysentery, Colitis and Diarrhea in Japanese Civilian Prison Camps in the Philippines During World War II: III. Non-Inflammatory, Concurrent and Dual Processes. F. G. Haughwout.—p. 238.

American Journal of Medicine, New York

4:789-934 (June) 1948

Dynamics of Left Auricle in Mitral Valve Lesions: Fluorocardiographic Study. A. A. Luisada and F. G. Fleischner.—p. 791.
*Application of Microplethysmography to Diagnosis of Patent Ductus Arteriosus and Coarctation of Aorta. R. S. Megibow and S. Feitelberg.—p. 798.
*Pheochromocytoma: Report of Case, with New Diagnostic Test. V. Guarneri and J. A. Evans.—p. 806.
Absorption and Metabolism of Lipiodol After Oral Administration: Method for Study of Fat Absorption and Fat Metabolism in Man. J. Groen.—p. 814.
Reiter's Syndrome: Report on Four Patients Treated with Streptomycin. T. A. Warthin.—p. 827.
*Clinical Value of Examination of Gastric Contents for Tubercle Bacilli. A. L. Banyai.—p. 836.
Technical Aspects of Therapeutic Malaria. L. I. Kaplan and H. S. Read.—p. 846.
Left Vocal Chord Paralysis Associated with Cardiac Disease. D. A. Dolowitz and C. S. Lewis.—p. 856.
Parenteral Benadryl in Allergy. S. Friedlaender and A. S. Friedlaender.—p. 863.

Microplethysmography in Patent Ductus Arteriosus.—Megibow and Feitelberg used a direct ink recording microplethysmograph in a study of patients with congenital heart disease. They obtained plethysmograms in 26 patients suspected of having patent ductus arteriosus and in 6 patients with suspected coarctation of the aorta. Tracings of the finger and toe tip volume pulsations were recorded and characteristic patterns were found. In patent ductus the following alterations were found: The apex of each wave was blunt, broad or flat; there was a loss of the normal difference between systolic rise and diastolic fall, the limbs tending to be equal; the dicrotic notch was either absent or barely discernible and tended to vary in position from beat to beat; small but significant fluctuations in contour and volume amplitude appeared from moment to moment. In coarctation of the aorta normal volume relationships in the finger and toe tracings were lost, so that the volume amplitude and alpha waves in the fingertip tracing were greater than or at least equal to the analogous waves in the tracings from the toe tip. The findings illustrate the value of microplethysmography in diagnosis of these anomalies.

New Test for Pheochromocytoma.—Guarneri and Evans report preoperative diagnosis of a chromaffinoma of the adrenal gland by means of a new diagnostic test and successful removal of the tumor. The effects of methacholine chloride, atropine and curare were studied in the patient, a woman aged 23. Methacoline produced an initial transitory fall in blood pressure followed by a rise to hypersensitive levels. Atropine abolished the "muscarinic" reactions to methacholine but failed to influence the rise in pressure. Curare did not affect the response to methacholine in any way. A test for pheochromocytoma, based on the reaction to 25 mg. of methacholin given subcutaneously, is described. An initial fall in blood pressure of short duration which is followed by a decided and more sustained rise to hypertensive levels constitutes a positive reaction. Of 27 control patients receiving methacholine, none showed this hyper-reactor response. Comparison is made between the histamine and the methacholine test. In 9 patients, 5 showed a hyper-reactor response to histamine. It is suggested that the methacholine test may be more reliable than the histamine test in diagnosis of pheochromocytoma inasmuch as no hyper-reactors were noted among the controls when methacholine was administered. From the pharmacologic evidence presented it is deduced that methacholine directly stimulates the chromaffin tissue of pheochromocytoma.

Examination of Gastric Contents for Tubercle Bacilli.—Banyai has used gastric aspirations in the search for tubercle bacilli since 1933. He is convinced that bacteriologic examination of the fasting gastric contents can be used to advantage in tuberculosis work for the following purposes: (1) in clinical diagnosis; (2) for the management of tuberculous patients; (3) in follow-up examinations of patients presumably recovered from tuberculosis; (4) for bacteriologic screening of persons in close contact with persons suffering from tuberculosis, and (5) for the study of persons roentgenograms of whose chests show abnormalities. It is the author's practice to pool individual gastric specimens obtained on successive days. The pooled specimens are prepared for culture or animal inoculation as a single specimen. The author discusses the possible sources of tubercle bacilli in the fasting gastric juices and shows that the examination is of value in pulmonary as well as in extrapulmonary forms of tuberculosis. In 7 of 22 patients with tuberculosis of bone and joint, without demonstrable active tuberculous involvement in the lung, tubercle bacilli were found in the stomach juice. The usefulness of this method was tested in tuberculous lymphadenitis, pleurisy with effusion, renal tuberculosis and lupus vulgaris. The results show that examination of the fasting gastric contents is of importance in establishing the diagnosis in a substantial percentage of such cases.

American J. Obstetrics and Gynecology, St. Louis

55:917-1086 (June) 1948. **Partial Index**

Normal and Cystic Structures of the Broad Ligament. G. H. Gardner, R. R. Greene and B. M. Peckham.—p. 917.
Possible Significance of Arterial Visualization in Diagnosis of Placenta Previa. L. J. Hartnett.—p. 940.
Characteristics in Hysterosalpingograms in Tuberculous Salpingitis and Endometritis. Ko-Chi Sun.—p. 953.
Evaluation of Plasma Pitocinase Determination in Toxemias of Pregnancy. Gloria T. Aragon.—p. 961.
*Leukemia and Pregnancy. J. A. Williams.—p. 967.
Effect of Equine Gonadotropin (Gonadogen) on Human Ovary. S. A. Wolfe and I. Neigus.—p. 979.
Chorea Gravidarum: Review of Recent Literature and Report of Five Cases. T. W. McElin, S. B. Lovelady and H. W. Woltman.—p. 992.
Newer Obstetric Analgesics. C. J. Lund.—p. 1007.
Method of Obstetric Analgesia and Anesthesia. L. M. Schadel Jr.—p. 1016.
Hyaluronidase in Treatment of Human Sterility. R. E. Tafel, P. Titus and W. W. Wightman.—p. 1023.
Poliomyelitis in Pregnancy. H. Gifford and R. L. Hullinghorst.—p. 1030.
Menstrual Dysfunction Due to Emotional Factors. M. Fremont-Smith and J. V. Meigs.—p. 1037.
Uterine Suspension: Report of Results. W. H. Vogt Jr., R. V. Boedeker and G. Lopez.—p. 1044.
Phenolsulfonphthalein as Test for Determination of Tubal Patency. G. Speck.—p. 1048.
Treatment of Erythroblastosis Fetalis with Rh Hapten. J. Loughrey and Bettina B. Carter.—p. 1051.
Torsion of Pregnant Uterus with Rupture. S. L. Siegler and L. M. Silverstein.—p. 1053.

Leukemia and Pregnancy.—Williams reviews the literature on the coexistence of leukemia and pregnancy and adds 2 cases, which bring the total to 90. One of the cases concerned a woman in whom chronic myelogenous leukemia was complicated by pregnancy. This woman is still living a year after delivery. The other case is unique in that it is the first reported instance of monocytic leukemia associated with pregnancy. This woman was delivered by cesarean section two hours after spontaneous rupture of the membranes. The baby was normal. The mother died eight days after delivery. Postmortem examination revealed acute monocytic leukemia, with leukemic infiltration of all organs, monoblastemia, petechial hemorrhages of all organs, acute ulcerative gingivitis, multiple infarcts of the spleen and pulmonary edema. In the first patient, it seems probable that the leukemic state antedated conception and gestation by several months, while in the second instance onset during pregnancy

seems likely. The course and the findings at necropsy in the patient with acute monocytic leukemia, though unique in obstetric literature, are in close accord with previous reports; the natural history of the disease was apparently not altered by the complicating pregnancy. The medical management of both of these cases was of a supportive nature. Leukemia is not transmitted from mother to child.

American Journal of Physiology, Baltimore

152:471-702 (March) 1948. **Partial Index**

Effect of Sympathectomy on Blood Flow in Human Limb. I. D. Stein, K. Harpuder and J. Dyer.—p. 499.
Effects of Exercise and of Some Other Influences on Renal Circulation in Man. H. L. White and Doris Rolf.—p. 505.
Duration of Renal Ischemia Required to Produce Uremia. P. B. Hamilton, R. A. Phillips and Alma Hiller.—p. 517.
Effect of 20, 60 and 120 Minutes of Renal Ischemia on Glomerular and Tubular Function. R. A. Phillips and P. B. Hamilton.—p. 523.
Influence of Hypotension on Coronary Blood Flow, Cardiac Work and Cardiac Efficiency. J. E. Eckenhoff, J. H. Hafkenschiel, E. L. Foltz and R. L. Driver.—p. 545.
Arterial Pressure Pulse Waves in Patient with Coarctation of Aorta. M. Galdston and J. M. Steele.—p. 554.
Validity of T-1824 in Plasma Volume Determinations in Human. W. N. Campbell, A. Sokalchuk and R. Penman.—p. 563.
Serum Ac-Globulin: Formation from Plasma Ac-Globulin; Role in Blood Coagulation; Partial Purification; Properties; and Quantitative Determination. A. G. Ware and W. H. Seegers.—p. 567.
Influence of Heparin on Optical Density of Clotted Plasma. R. H. K. Foster.—p. 577.
Importance of Pressure Factors in Genesis of Pulmonary Edema Following Vagotomy. A. H. Sussman, A. Hemingway and M. B. Visscher.—p. 585.
Attempt to Produce Pulmonary Edema by Increased Intracranial Pressure. A. Surtshin, L. N. Katz and S. Rodbard.—p. 589.
Retention of Sex Functions After Isolation of Pars Anterior by Extirpation of Hypophysial Stalk. C. G. Breckenridge and A. D. Keller.—p. 591.
Inhibition of Epinephrine Action in Severe Hypoxemia. A. Surtshin, S. Rodbard and L. N. Katz.—p. 623.
Effect of Administering Agenized Amino Acids and Wheat Gluten to Dogs. G. W. Newell, S. N. Gershoff, F. H. Fung and C. A. Elvehjem.—p. 637.
pH of Gastric Mucous Secretion. F. Hollander, F. U. Lauber and J. J. Stein.—p. 645.
Reduction of Central Hyper-Irritability Following Block Anesthesia of Peripheral Nerve. O. E. Reynolds and H. C. Hutchins.—p. 658.
Rate of Recovery of Temperature-Regulating Responses After Ether Anesthesia. A. Hemingway.—p. 663.

Am. J. Roentgenol. & Rad. Therapy, Springfield, Ill.

59:771-914 (June) 1948

*Neutron Therapy and Specific Ionization. R. S. Stone.—p. 771.
Dosage Measurements for Various Methods of Intrauterine Radium Applications in Cancer of Endometrium. J. F. Nolan and W. Natoli.—p. 786.
Cancer of Corpus Uteri Following Radiation Therapy for Benign Uterine Lesions. F. R. Smith and L. Bowden.—p. 796.
*Roentgen Changes Produced by Diffuse Torulosis in Newborn. E. B. D. Neuhauser and A. Tucker.—p. 805.
*Toxoplasmosis: Report of Case with Roentgen Demonstration of Unusual Intracranial Calcifications. S. H. Fisher and D. Wilson.—p. 816.
Skeletal Lesions in Leukemia: Clinical and Roentgenographic Observations in 103 Infants and Children, with Review of Literature. F. N. Silverman.—p. 819.
Significance of Triangular Hilar Shadows in Roentgenograms of Infants and Children. R. M. Harvey and R. S. Bromer.—p. 845.
Tuberculous Calcification: Clinical and Experimental Study. R. G. Bloch.—p. 853.
Mucosal Studies in Colitis Due to Parasites. J. Arendt and J. Coheen.—p. 865.
Unusual Case of Rickets. C. Gottlieb and H. Feld.—p. 877.
Parosteal Osteoid Chondroma. F. Leeser.—p. 882.
Amplification of Fluoroscopic Image by Means of Thick Dense Clear Crystalline Detector Screen and Scanning Roentgen-Ray Tube. R. J. Moon.—p. 886.

Neutron Therapy.—Stone says that neutrons were first used in the treatment of human cancer in 1938. The late effects from the irradiation of animals with neutrons are greater in proportion to the early effects than would be expected from previous experience with such effects from roentgen irradiation. Neutron therapy has resulted in such bad late sequelae in proportion to the few good results that it should not be continued. Eighteen patients have been kept alive, but none of them are free from distressing late effects. Any one contemplating the use on patients of new radiations such as multimillion volt protons, beta rays and roentgen rays should study the relative biologic effectiveness of them by late reactions as well as by acute early ones.

Roentgen Changes Produced by Diffuse Torulosis in the Newborn.—According to Neuhauser and Tucker calcification of the brain is rarely observed on roentgenograms made during the neonatal period. The exact nature of the intracranial calcifications that were occasionally observed went without explanation until the work of Wolf, Dyke and associates demonstrated that intracerebral calcification was frequently associated with toxoplasmic encephalomyelitis. Another cause for calcification in the brain in the neonatal period was demonstrated recently by Landing and Farber, who described the postmortem finding in an infant 7 weeks of age of a diffuse meningoencephalitis caused by Torula histolytica (Cryptococcus neoformans). Their studies demonstrated that the combination of degeneration of the brain, meningoencephalitis, calcification within the brain, chorioretinitis and generalized visceral involvement found so characteristically in infants with toxoplasmic infection may be produced by another infectious agent. Since the discovery of torulosis in that infant, the occurrence of the disease has been proved at postmortem examination in 2 more infants in the same laboratory. This paper is concerned primarily with a description of the roentgenologic changes in these 3 patients. Each showed evidence of mild hydrocephalus on roentgenographic study and diffuse punctate and confluent calcification of the severely degenerated brain. The calcification resembles that seen with toxoplasmic encephalitis. Enlargement of the liver was present in each patient and enlargement of the spleen was striking. Two patients showed inflammatory and granulomatous lesions in the lungs, and 2 showed nonspecific submetaphysial decalcification of the long bones. In each patient the infection was evidently acquired in utero, during delivery or early in the neonatal period. The damage produced by the fungus was severe, and fatal within a few weeks after birth.

Toxoplasmosis with Intracranial Calcifications.—Fisher and Wilson report a white female infant who lived to be 17 months old and who showed the classical picture of congenital toxoplasmic encephalitis of convulsions, cerebral calcifications, chorioretinitis and hydrocephalus. Antibody neutralization studies carried out on the child's and the mother's serum showed both to have antibody reactions positive for Toxoplasma. Roentgenograms showing the unusual intracranial calcifications are presented. Since this child's disease was probably contracted from the mother, it is interesting to note that the only animals the parent had any contact with were a pet dog during the last two months of her pregnancy and a canary as a pet for one summer, two years before the child was born. Callahan reports that both of these animals are natural hosts of Toxoplasma.

American Journal of Surgery, New York

76:1-120 (July) 1948

Free Skin Grafting. J. A. Jenney.—p. 3.
Filarial Funiculitis: Report of Case Discovered at Operation for Inguinal Hernia. B. L. Coley and B. Lewis.—p. 15.
*Intravenous Drip Anesthesia with Pentothal Sodium: Report of 7,694 Cases. G. Cottam.—p. 23.
Wounds of Common Carotid Arteries: Report of Seventeen Cases from World War II. K. B. Lawrence, L. M. Shefts and J. R. McDaniel.—p. 29.
*Placental Blood and Placental Extract in Wound Healing. F. R. Cole.—p. 38.
Comparison of Crash Injuries in Man and in Laboratory Animals. R. F. Rushmer and G. M. Hass.—p. 44.
Shock Caused by Extremity Wounds. R. Birchall.—p. 51.
Hemangiomas of Striated Muscle. G. F. Goeringer.—p. 58.
Therapeutic Stellate Ganglion Block Using Local Anesthetics. B. B. Clark and S. Wolfson.—p. 66.
Meckel's Diverticulum. H. M. Zeidman.—p. 69.
Technic of Operation for Varicose Veins. J. E. Summers.—p. 72.
Oxygen Therapy in Surgery. W. H. Kisner.—p. 76.
Fracture Deformity Reduction and Fixation Splints: Linear Fracture Through Head of Humerus. H. C. Masland.—p. 83.
Tendon Repair with Steel Wire. G. H. Pratt.—p. 87.
Plastic Repair for Postoperative Anal Incontinence. R. Turrell, J. B. Gordon and K. Davis.—p. 89.

Drip Anesthesia with "Pentothal Sodium."—Cottam presents his experiences in over seven thousand operations that were carried out with the patient under anesthesia induced by the intravenous administration of "pentothal sodium" alone or in combination. Major surgical interventions were carried out in 4,545 of the cases. "Pentothal" was used for major operations in such circumstances, as when surgeons would schedule a minor operation that would turn out to be a major one. It was

soon realized that the postoperative course was smoother than after other forms of anesthesia. There were fewer cases of vomiting and gas pains and fewer instances of acute dilation of the stomach. The recovery period was shorter. When an operation was begun with patient under "pentothal" anesthesia and an inhalation anesthetic was added for better relaxation, the postoperative recovery was much smoother than if an inhalation anesthetic had been used alone. After that combination anesthesia was used widely. One of the most popular at the author's hospitals is intravenous administration of a combination of "pentothal sodium," oxygen, cyclopropane and curare. At first a 5 per cent solution was used, but when it was found that some patients slept for long periods afterward, weaker solutions were tried. Now the author never uses a solution that is stronger than 1 per cent, and in very young and very old patients 0.5 per cent. "Pentothal" given by syringe is dangerous and solution strengths above 1 per cent are not safe. The intravenous drip method with solution strengths of 1 per cent and below are not dangerous. The author outlines a safe preoperative and postoperative routine and stresses the advantages of intravenous anesthesia alone or in combination.

Placental Blood and Placental Extract in Wound Healing.—Cole used placental blood in combination with extract of placental tissue in chronic granulating wounds of varicose ulcer decubitus variety. Placental blood was collected aseptically in sterile pans. The blood was mixed with sterile jelly so that the consistency was that of a paste. The mass of red cells before being used was mixed with an extract of placenta. This extract was obtained by squeezing the placentas of the same patients whose blood was used. A number of illustrating case histories are presented. A comparative study of the pooled red cell mass and the placental mass demonstrates conclusively that the healing action of the latter is more potent. The patients on whom the preparation has been used were mostly people of advanced age who had wounds of varying periods of time. The substance greatly alleviated pain. Penicillin was tried in 1 patient both locally and parenterally with signal failure. The substance used proved to be superior. The fact that the placental mass produces better effects than red cells may be due to a greater amount of "growth hormone" and also perhaps due to a greater amount of the steroids, glycogen and vitamin C in placental tissue.

Annals of Internal Medicine, Lancaster, Pa.

28:1075-1234 (June) 1948

*Reiter's Disease: Report of 5 Cases Including Two Successfully Treated with Hyperthermia. E. W. Lowman and R. J. Boucek.—p. 1075.
*Histoplasmin and Tuberculin Sensitivity in Relation to Pulmonary Calcifications Among University of Wisconsin Students. Helen A. Dickie and Elizabeth A. Clark.—p. 1087.
Thoracic Stomach Produced by Esophageal Hiatus Hernia and Congenital Short Esophagus. F. J. Putney.—p. 1094.
Management of Destructive Arthritis of Hip by Means of Intravenous Procaine. D. J. Graubard, J. Kovacs and H. H. Ritter.—p. 1106.
Vitamin E in Heart Disease. H. Levy and E. P. Boas.—p. 1117.
Studies on Experimental Phosgene Poisoning. V. Infusions in Treatment of Experimental Phosgene Poisoning. H. D. Bruner, Mary H. Gibbon, M. D. McCarthy and others.—p. 1125.
Carotid Artery Thrombosis: Report of Eight Cases Due to Trauma. H. W. Caldwell and F. C. Hadden.—p. 1132.
Massive Dosage of Penicillin Administered by Continuous Intramuscular Infusion. R. L. Fisher and M. Zuckerman.—p. 1143.
Treatment of Angina Pectoris with Prophylthiouracil. G. Hollander and H. Mandelbaum.—p. 1150.

Reiter's Disease.—Lowman and Boucek report 5 cases of Reiter's disease. Four are typical cases with the classical triad of urethritis, conjunctivitis and arthritis. In the fifth patient the syndrome was incomplete, conjunctivitis being absent. Two of the patients presenting the complete triad responded to treatment with artificial hyperthermia and penicillin and promptly went into remission. These patients had been chronically ill for six and seven months respectively. Follow-up examinations after four and six months respectively showed no recurrence. If this favorable response to fever and penicillin can be obtained in other cases of Reiter's disease it will mean a substantial reduction in the morbidity of a protracted disease process.

Histoplasmin and Tuberculin Sensitivity in Wisconsin Students.—Dickie and Clark show that histoplasmin sensitivity among students at the University of Wisconsin reflects what is known of the geographic distribution of such sensitivity in the United States. A significant proportion of hilar and pulmonary calcifications seen in roentgenograms of the chest is not associated with tuberculin sensitivity. In this series 66 of 73 such calcifications in tuberculin-negative persons were associated with histoplasmin sensitivity. The incidence of pulmonary calcifications of the entire group surveyed in this study was 38.3 per cent in the students reacting only to histoplasmin and 9.2 per cent in those who reacted to tuberculin alone. Small pulmonary infiltrates indistinguishable roentgenologically from tuberculous lesions may be associated with histoplasmin sensitivity and not tuberculin sensitivity. The authors consider it erroneous to base a diagnosis of tuberculous infection merely on the roentgenologic detection of pulmonary calcifications or infiltrations.

Archives of Ophthalmology, Chicago

39:135-260 (Feb.) 1948

Degeneration and Regeneration of Nerves in Corneal Transplantation. H. Escapini.—p. 135.
Tests of Defective Color Vision. B. Chance.—p. 162.
Iridotasis ab Externo for Relief of Glaucoma Simplex. W. A. Stoutenborough.—p. 173.
Tangent Screen Illuminators: Construction, Use and Advantages. C. Berens and M. Luckiesh.—p. 176.
Amblyopia ex Anopsia: New Concept of Its Mechanism and Treatment. B. M. Lazich.—p. 183.
Congenital Impatency of Nasolacrimal Duct. D. Guerry III and E. L. Kendig Jr.—p. 193.
*Spontaneous Absorption of Congenital Cataract Following Maternal Rubella. L. H. Ehrlich.—p. 205.
Distance Discrimination: I. Theoretic Considerations. M. J. Hirsch and F. W. Weymouth.—p. 210.
Id.: II. Effect on Threshold of Lateral Separation of Test Objects. M. J. Hirsch and F. W. Weymouth.—p. 224.
Sodium Sulfacetimide in Ophthalmology. L. L. Mayer.—p. 232.

Spontaneous Absorption of Congenital Cataract Following Maternal Rubella.—Ehrlich reports a hitherto undescribed development in congenital cataract following maternal rubella; namely, its spontaneous absorption, leaving only a membrane in its wake. Such absorption has rarely been seen in congenital cataracts of presumably different origin. A case in which the process occurred is described. Four other cases in which this process may have taken place, in 3 of which the mother had rubella during the early part of the pregnancy, are cited.

Arkansas Medical Society Journal, Fort Smith

45:1-40 (June) 1948

Surgical Treatment of Hypertension. G. De Takats.—p. 1.
Solitary Bone Cyst of Os Calcis (Form of Osteitis Fibrosa). J. M. Hundley.—p. 7.

45:41-56 (July) 1948

Surgical Management of Congenital Malformations of Anus, Rectum and Colon. H. E. Bacon and A. C. Hering.—p. 41.
Prevention of Cancer of the Rectum and Colon: Diagnosis and Treatment of Pre-Cancerous Lesions. M. S. Craig Jr.—p. 46.

Blood, New York

3:719-822 (July) 1948

Relation of Adrenal Cortical Hormone to Lymphoid Tissue and Lymphocytes. W. N. Valentine, C. G. Craddock Jr. and J. S. Lawrence.—p. 729.
Changes in Circulating Leukocytes Induced by Administration of Pituitary Adrenocorticotrophic Hormone in Man. A. G. Hills, P. H. Forsham and C. A. Finch.—p. 755.
Blood Picture in Addison's Disease. J. Báez-Villaseñor, C. E. Rath and C. A. Finch.—p. 769.
*Carbamates in Chemotherapy of Leukemia: I. Procedure for Screening Compounds for Leukotoxic Action. H. E. Skipper, W. H. Riser Jr., Anne Stelzenmuller and Helen Holt.—p. 774.
*Para-Aminobenzoic Acid in Leukemia. C. J. D. Zarafonetis, G. A. Andrews, M. C. Meyers and F. H. Bethell.—p. 780.
Acute Thrombocytopenia Induced in Dogs by Administration of Urethane (Ethylcarbamate). W. O. Cruz and H. Moussatche.—p. 793.
Method for Obtaining Living Leukocytes from Human Peripheral Blood by Acceleration of Erythrocyte Sedimentation. A. H. Minor and L. Burnett.—p. 799.

Carbamates in Leukemia.—This report by Skipper presents a simple and rapid technic for rough qualitative determination of the leukopenic action of a given agent, the mouse being used as the experimental animal. Results of hematologic studies with urethane, nitrogen mustard, roentgen rays, potassium arsenite and benzene are reported herein. The first phase of the hematologic screening technic entailed determination of the acute LD_{50} of the agent to mice by parenteral administration, isotonic sodium

chloride solution, 10 per cent gum acacia, propylene glycol or peanut oil being used as the carrier. In the second phase of the study, mice were grouped and given injections at the LD_{50} level and at one half the LD_{50} level. Five mice from each group were killed for hematologic study at two and four or four and seven days after injection. In accord with general statistical practice, it is assumed that any group of animals having a mean leukocyte count of plus or minus 3 standard deviations from the control mean has been significantly affected by the therapy in question. On this basis, there can be little doubt that the leukopenic action of urethane, nitrogen mustard, roentgen ray, potassium arsenite and benzene has been demonstrated by the assay.

Para-Aminobenzoic Acid in Leukemia.—Zarafonetis and his co-workers deal with the results obtained in 10 patients to whom para-aminobenzoic acid was administered. Five of these subjects had chronic myelogenous leukemia; 3 had subacute myelogenous leukemia, subclassified in 2 as erythroleukemia, and 2 had chronic lymphatic leukemia. Para-aminobenzoic acid was placed in solution by conversion to sodium para-aminobenzoate with sodium bicarbonate. The final volume was adjusted to make a 10 per cent solution, which was administered orally to the patients in 20 cc. to 40 cc. doses (2.0 Gm. to 4.0 Gm.) every two hours, day and night. The solution was taken most readily in a small amount of fruit juice or ginger ale. Para-aminobenzoic acid, administered in large doses as sodium para-aminobenzoate, caused a striking lowering of the leukocyte count in 5 patients with chronic myelogenous leukemia and in 1 patient with subacute myelogenous leukemia. It caused less definite decreases of the white cell count in 2 patients with chronic lympatic leukemia, but the periods of administration may have been too short to obtain maximal effects. In every instance there was a prompt rise in the number of leukocytes when the administration was stopped. Although there was decrease in spleen size in some of the patients, the objective clinical improvement was but slight and temporary. Sodium para-aminobenzoate is not considered a practical adjunct to the therapy of leukemia at this time. It is hoped that studies of the cellular chemistry involved in the apparent inhibitory action of sodium para-aminobenzoate may yield information concerning the disordered metabolism of leukemic cells.

Cincinnati Journal of Medicine

29:317-378 (June) 1948

Aspects of Use of Chemotherapy and Antibiotics. M. Finland.—p. 317.
Present Knowledge of Exophthalmos and Its Surgical Treatment. H. N. Naffziger.—p. 329.
Local Anesthesia in Cesarean Section. J. F. Mohan.—p. 335.

29:379-426 (July) 1948

Evaluation of Newer Methods of Treatment of Thyrotoxicosis. R. H. Williams.—p. 379.
Pathogenesis of Tuberculosis. H. C. Sweany.—p. 383.

Connecticut State Medical Journal, Hartford

12:607-702 (July) 1948

Modern Treatment of Thyrotoxicosis. J. H. Means.—p. 609.
Early Treatment of Mentally Ill in Rehabilitation as Viewed by General Physician. S. S. Levine.—p. 615.
*Glaucoma as Post Operative Complication of Hysterectomy, Oophorectomy, Enterectomy and Enteroenterostomy. J. A. McCreery and R. J. Hansel.—p. 620.
Spontaneous Rupture of Esophagus: Case Report. C. E. McLeod and N. Gardner.—p. 622.
Three Cases of Pemphigus in Same Family: Report of One Case. L. W. Granirer.—p. 623.
*Experience with Use of Nitrogen Mustard at Hartford Hospital. N. W. Wawro.—p. 625.
Evidential Trends in Diagnostic Activities in Public Health Laboratories. F. L. Mickle.—p. 631.

Glaucoma as Complication of Hysterectomy.—McCreery and Hansel report a woman, aged 61, who was operated on for a suprapubic mass extending to the umbilicus. This mass originated in the right ovary. There were a number of small fibroids in the uterine wall. The ovarian mass had become firmly adherent to the lower leaf of the mesentery of the ileum. The usual hysterectomy was performed. Since it was found impossible to free the tumor, it was removed with about 10 inches (25.4 cm.) of the ileum; an end to end enteroenterostomy was done. On the fifth postoperative day the patient complained of neuralgia-like pain over the right eye, which seemed to continue in spite of warm compresses and sedatives. On the sixth postoperative day the tension in the right eye was found to be 50 by Schiotz tonometer. The eye was definitely hard to finger tip pressure and showed deep scleral injection. The cornea appeared moderately hazy. On the basis of a diagnosis of glaucoma, treatment with physostigmine salicylate was instituted, and this controlled the tension in both eyes. Later, when the patient became sensitive to physostigmine, therapy was changed to pilocarpine hydrochloride. Since the tension in the right eye remained rather high, a corneosclerectomy was done in this eye with good control of the tension.

Nitrogen Mustard at Hartford Hospital.—Wawro says that since July 1946 nitrogen mustard has been made available to the Hartford Hospital by the National Research Council for clinical use in selected cases of lymphoma, polycythemia vera and advanced cancer of the lung. This agent has been used on 27 patients. Experience has been limited to the use of methyl-bis (B-chloroethyl) amine hydrochloride, since there is less danger of venous thrombosis with this agent. The prescribed daily intravenous dose was 0.1 mg. per kilogram of body weight. Four daily treatments constituted the usual course, though occasionally treatment would be withheld on the third day when pronounced nausea and vomiting occurred. Established diagnoses in cases in which the treatment was used were Hodgkin's disease, lymphosarcoma, chronic lymphatic leukemia, mycosis fungoides, polycythemia vera, inoperable bronchogenic carcinoma and widespread carcinomatosis from breast and gastrointestinal tract. Favorable and dramatic clinical remissions in advanced and terminal cases have lasted from ten days to fourteen months. The best results were obtained in Hodgkin's disease, but significant palliation was achieved in lymphosarcoma, chronic lymphatic leukemia, mycosis fungoides and advanced metastatic bronchogenic cancer. Roentgen therapy is still the treatment of choice for localized lymphoma, since the margin of safety is greater and this therapy can be given locally. Once the disease becomes refractory to irradiation or too extensive for local treatment, nitrogen mustard suggests itself as a useful therapeutic agent.

Delaware State Medical Journal, Wilmington

20:85-108 (May) 1948

Approach to Problem of Alcoholism. C. N. Davis.—p. 85.
Newer Concepts in Treatment of Peptic Ulcer. G. S. Serino.—p. 92.
Toxic Adenoma of Thyroid Co-Existing with Carcinoma of Uterus: Case Report. F. J. Gilday.—p. 95.

20:109-130 (June) 1948

Practical Application of Vaginal Smear as Method in Clinical Gynecology. I. Slovin, W. B. Silberblatt and H. B. Safford.—p. 109.
Acute Lymphocytic Choriomeningitis. A. H. Williams.—p. 113.
*Chronic Intestinal Upsets Due to Amebiasis. H. D. Groff.—p. 116.
Some Developments in Military Medicine. W. S. Stone.—p. 118.
Preventive Measures for Atomic Explosion. A. J. Bauer.—p. 121.

Chronic Intestinal Upsets Due to Amebiasis.—Groff stresses that practitioners should be aware of tropical diseases in overseas veterans and should be on the lookout for amebic infestation in those who have chronic gastrointestinal upsets. In 6 patients (3 soldiers, 2 sailors and 1 civilian) who were observed in the course of nine months, there was soreness of the abdomen, more especially over the cecum. These men had recurrent bouts of profuse, watery and occasionally bloody diarrhea, with eight to ten bowel movements daily. Diarrhea lasted twenty-four to seventy-two hours. Following diarrhea, there would be a period of relief of four to seven days, although they continued to have "irritable colon," with the desire to defecate after ingestion of food. Two of the men had occasional bloody rectal discharges. Four of the 6 patients had had an examination of a warm stool specimen and sigmoidoscopy. Endamoeba histolytica was found in the material obtained by the sigmoidoscope in only 1 of 4 cases. This was attributed to the fact that these men had received a mixture of camphorated opium tincture and bismuth compound for an acute attack just prior to the examination. These patients were given a trial course of antiamebic therapy, with prompt relief of the symptoms. Treatment of amebiasis varies in different clinics, but emetine hydrochloride is chiefly used in the dysentery or abscess

forms of amebiasis, and not only does it possess antiamebic effect, but seems to act as an antisoasmodic and antipyretic drug. Not only should amebic infestation be considered in the presence of intestinal complaints, but invasion elsewhere in the body, such as in the liver, gallbladder, lung or brain, should also be watched for.

Journal of Clinical Investigation, Boston

27:1-150 (May), Part 2, 1948. **Partial Index**

Procedures Used at Stateville Penitentiary for Testing of Potential Antimalarial Agents. A. S. Alving, B. Craige Jr., T. N. Pullman and others.—p. 2.

Use of SN-10,275 in Prophylaxis and Treatment of Sporozoite-Induced Vivax Malaria (Chesson Strain). T. N. Pullman, Lillian Eichelberger, A. S. Alving and others.—p. 12.

Pentaquine (SN-13,276), Therapeutic Agent Effective in Reducing Relapse Rate in Vivax Malaria. A. S. Alving, B. Craige Jr., R. Jones Jr. and others.—p. 25.

Clinical Trial of Eighteen Analogues of Pamaquin (Plasmochin) in Vivax Malaria (Chesson Strain). A. S. Alving, T. N. Pullman, B. Craige Jr. and Others.—p. 34.

Comparison of Chloroquine, Quinacrine (Atabrine), and Quinine in Treatment of Acute Attacks of Sporozoite-Induced Vivax Malaria (Chesson Strain): Preliminary Report. T. N. Pullman, B. Craige Jr., A. S. Alving and others.—p. 46.

Therapeutic Effectiveness of Large Doses of Paludrine in Acute Attacks of Sporozoite-Induced Vivax Malaria (Chesson Strain). R. Jones Jr., T. N. Pullman, C. M. Whorton and others.—p. 51.

Lichen-Planus-Like Eruption Occurring During Course of Chloroquine Administration. B. Craige Jr., C. M. Whorton, R. Jones Jr. and others.—p. 56.

Studies on Chemotherapy of Human Malarias. J. A. Shannon, D. P. Earle Jr., R. W. Berliner and J. V. Taggart.—p. 66 .

Technic for Detection of Minimal Numbers of Malaria Parasites; Its Application in Detection of Suppressed Vivax Malaria. R. W. Berliner, T. J. Kennedy Jr. and F. S. Bigelow.—p. 134.

Methemalbumin: I. Appearance During Administration of Pamaquine and Quinine. M. Rosenfeld, C. G. Zubrod, W. D. Blake and J. A. Shannon.

Journal of Nutrition, Philadelphia

35:629-750 (June) 1948. **Partial Index**

Comparative Growth-Promoting Values of Proteins of Cereal Grains. D. B. Jones, A. Caldwell and Katherine D. Widness.—p. 639.

Nutritive Value of Cereal Proteins in Human Subjects. C. A. Kuether and V. C. Myers.—p. 651.

Role of Thyroid Activity in Pathogenesis of Hepatic Lesions Due to Choline and Cystine Deficiency. P. Handler and R. H. Follis Jr. —p. 669.

Lysine, Methionine and Threonine Content of Meats. Irene T. Greenhut, R. J. Sirny and C. A. Elvehjem.—p. 689.

Iron and Copper Metabolism of Young Women on Self-Selected Diets. Flowayne Holt and Florence I. Scoular.—p. 717.

Journal of Pediatrics, St. Louis

32:629-774 (June) 1948

Review of Boeck's Sarcoid with Analysis of 12 Cases Occurring in Children. R. B. Cone.—p. 629.

*Further Observations Concerning Hypofunction of Adrenals During Early Life: "Salt and Water" Hormone Deficiency. J. C. Jaudon.—p. 641.

Constitutional Statural Overgrowth and Increased Lower Body Segment with Normal Sexual Development in Family of Four. G. B. Dorff. —p. 670.

*Sclerema Neonatorum. W. E. Hughes and M. L. Hammond.—p. 676.

*Clinical Signs and Development of Survivors of Kernicterus Due to Rh Sensitization. Lottie Lande.—p. 693.

Pulmonary Calcification in Twins. G. Houston and W. A. Steiger. —p. 706.

Hypofunction of Adrenals During Early Life.—Jaudon emphasizes that the pediatrician should acquaint himself with the life-sustaining functions of the adrenal glands and should think of the possibility of temporary hypofunction of these glands when dealing with infants who present symptoms of protracted gastrointestinal disturbances, who fail to gain weight, who have an unexplained tendency to dehydration and who respond unsatisfactorily to the accepted therapeutic measures. The author presents 5 cases which demonstrate the existence of a fractional and transitory disturbance in adrenal function. The patients required administration of desoxycorticosterone acetate and salt for long periods to sustain life. Low carbon dioxide-combining power, elevated nonprotein nitrogen, and moderately low serum sodium chloride during periods of hemoconcentration were present in all cases. The clinical course before, during and after hormone therapy is evidence suggesting a temporary absence or physiologic low supply of the desoxycorticosterone factor of the adrenal cortex.

Sclerema Neonatorum.—Hughes and Hammond define sclerema neonatorum as an uncommon disease characterized by a diffuse, rapidly spreading, nonedematous, tallow-like hardening of the subcutaneous tissue of infants in the first few weeks of life. The skin in involved areas cannot be picked up, and the subcutaneous tissue seems bound down to subjacent muscle and bone. The involvement usually starts on the buttocks, thighs or trunk, but may spread to involve any area of the body save the soles, palms and genitalia. The affected infants often have other diseases associated with the process, such as pneumonitis, enteritis, intracranial hemorrhage or congenital heart disease. Many show difficulty with respect to temperature control and little tendency to spontaneous movement. The disease is usually discovered in the first few days after birth. The course is usually rapidly downhill with a fatal termination. In reviewing the cases reported in the literature as sclerema, the authors have eliminated all cases which seem more typical of subcutaneous fat necrosis, scleroderma or hydrops. The significant findings from the 28 cases reviewed are as follows: Average age of onset was four days with extremes from birth to 70 days; 25 per cent of the mothers were ill at the time of delivery; all but two deliveries were spontaneous; average birth weight was 2,800 Gm., with variations from 2,150 to 4,100 Gm.; the majority of infants exhibited abnormal behavior at birth, weakness and cyanosis being the most common symptoms; almost all children had difficulty with control of body temperature and evidences of other complications besides sclerema; 75 per cent died, with the average age of death 10 days; at necropsy of 11 infants thickening of connective tissue bands was the most common observation. The authors present detailed histories of 3 additional cases. Various etiologic theories have been proposed. Most of the evidence favors the hypothesis that sclerema neonatorum may be a manifestation of severe shock in early infancy and that the hardening of fat and thickening of collagen fibers in the subcutaneous tissues may result from insufficiency of peripheral circulation.

Survivors of Kernicterus Due to Rh Sensitization.—Lande reports 8 cases of kernicterus due to Rh sensitization observed at the Dixon State Hospital. The development of these children was followed for several years, the oldest now being 11½ years of age. These cases fall clinically into four distinct groups: In the first, there is a generalized athetosis due to destruction in the corpus striatum and globus pallidus. In the second, there is persistent spasticity from involvement of the pyramidal and extrapyramidal systems. In the third, ataxia and disturbance of balance are the predominant features suggesting cerebellar degeneration. In the fourth, atonic diplegia from involvement of the extrapyramidal tract dominates the picture. Most patients show combinations of signs of all these four varieties. In some of the cases, there was a change from spasticity to hypotonia. In addition to these motor disturbances, a considerable percentage of the patients exhibit cranial nerve signs. Four patients were deaf; one of them was blind and deaf; another had a transitory blindness. Several patients had ocular signs suggestive of transitory or permanent involvement of the third or sixth cranial nerve nuclei. The mental development in most of these cases was retarded from the beginning and soon came to a standstill. The part played by damage to the liver in the causation of icterus gravis neonatorum is now generally recognized. Why the destructive process has a predilection for the nuclear masses of the brain is still open for discussion. That kernicterus develops only in a certain percentage of patients with malignant jaundice of the newborn suggests that in addition to the Rh allergy of the mother there may be another constitutional hereditary factor predisposing the fetal brain to damage. There are families in which the nervous system of the members seems to be abnormally susceptible to damage from infections and toxic or emotional disturbances. The author reviews the family histories of his 8 patients and finds that high intelligence but predisposition to nervous breakdowns and mental depression were found in some of the parents. Mongolism, encephalomeningitis and other cases of kernicterus were found among the siblings.

Journal Pharmacology & Exper. Therap., Baltimore

93:127-258 (June) 1948. **Partial Index**

Chronic Oral Toxicity of Chloroquine. O. G. Fitzhugh, A. A. Nelson and O. L. Holland.—p. 147.
Effect of Vitamin A Deficiency on Toxicity of Strychnine. J. F. Suchy and C. F. Poe.—p. 153.
Ouabagenin. K. K. Chen, R. C. Anderson and H. M. Worth.—p. 156.
Comparative Effectiveness of Five Antihistaminics vs. Histamine-Induced Spasm in Canine Thiry-Vella Loops. B. N. Craver, Anne Cameron and F. F. Yonkman.—p. 168.
Influence of Diphenhydramine Hydrochloride and Epinephrine on Glucose Metabolism in Rabbit. G. Chen and Isabel G. Clarke.—p. 175.
Sugar Alcohols: Pharmacodynamic Studies of Polyoxyalkylene Derivatives of Hexitol Anhydride Partial Fatty Acid Esters. J. C. Krantz Jr., C. J. Carr, J. G. Bird and Sally Cook.—p. 188.
Effect of Central Nervous System Depressants on Emptying Time of Human Stomach. D. W. Northup and E. J. Van Liere.—p. 208.
Toxicologist and Antihistaminic Properties of N,N'-Dimethyl-N'-Phenyl-N'-(2-Thienylmethyl) Ethylene-Diamine Hydrochloride (Diatrin). N. Ercoli, R. J. Schachter, W. C. Hueper and M. N. Lewis.—p. 210.
Niaara: Digitalis-Like Colombian Arrow Poison. K. Mezey, C. Uribe-Piedrahita, J. Pataki and J. Huertas-Lozano.—p. 223.
Cholinesterases of Human Erythrocytes and Plasma and Their Inhibition by Antimalarial Drugs. C. I. Wright and J. C. Sabine.—p. 230.
Effect of Certain Goitrogenic Drugs on Absorption of Radioactive Iodine by Thyroid Gland of Rats and Chicks. R. W. Rawson, D. A. McGinty, W. Peacock and others.—p. 240.

Michigan State Medical Society Journal, Lansing

47:579-688 (June) 1948

*Cornelian Corner: Practical Application of Basic Mental Hygiene Principles. L. H. Bartemeier.—p. 617.
Allergic Dermatoses: Recognition and Management. S. Friedlaender.—p. 619.
Dermatitis from Wearing Apparel. L. Schwartz.—p. 624.
Cancer Cemetery: Great Culture Medium. H. S. Hulbert.—p. 628.
Postoperative Foreign Bodies in Abdomen. E. S. Zawadzki and K. M. Truemner.—p. 630.
Vertigo: Differential Diagnosis and Treatment. J. R. Lindsay.—p. 632.
Hemometakinesia: Therapeutic Application to Peripheral Vascular Disease. M. E. DeBakey.—p. 636.

Cornelian Corner: Healthy Parent-Child Relationship.—Bartemeier describes the formation and aims of the "Cornelian Corner," an organization of pediatricians and clinical psychologists the chief aim of which is the promotion of healthy parent-child relationships. The organization is named for Cornelia, the mother of the Gracchi. It aims to reestablish the practices in infant care which were in vogue when babies were born in the home. It was customary for mothers to nurse their babies, to feed them as often as they seemed to need nourishment and to give them a great deal of mothering. Fathers commonly assisted in the care of their infants, and brothers and sisters had free access to the new baby. The separation of infants from their mothers and fathers in our modern hospitals is unhealthy for both the parents and their offspring, and it prepares for difficulties in the subsequent parent-child relationship. Natural mothering establishes the first human relationship, which becomes the foundation for all other subsequent relationships. Through its efforts to have the newborn infant in the same room with its mother from the time of birth, the Cornelian Corner hopes to make it possible for the father of the child to visit as often as he can. It encourages him to hold his infant so that he, too, may begin to love his child as early as possible.

Military Surgeon, Washington, D. C.

103:1-84 (July) 1948. **Partial Index**

Treatment of Peripheral Nerve Injuries. W. McK. Craig.—p. 1.
Supply of Whole Blood to Forward Mobile Medical Field Units of Ninth U. S. Army. A. C. Shainmark.—p. 14.
Personnel Selection Procedures in Military Aviation. B. Groesbeck Jr.—p. 16.
Injuries of Hypoglossal Nerve: Report of 10 Cases. E. M. Alrich and G. S. Baker.—p. 20.
Sanitary Team Organization in Japan. C. F. Sams.—p. 25.
High Acceleration of Short Duration. J. R. Poppen.—p. 30.
Problems of Flight Personnel Selection and Training. L. D. Carson.—p. 32.
Reconstruction Surgery of Hand. F. L. Liebolt.—p. 43.
Operative Correction for Hammer Toe. A. A. Michele and F. J. Krueger.—p. 52.
*Preventive Measures for Atomic Explosion. A. A. Bauer.—p. 55.

Preventive Measures for Atomic Explosion.—Bauer estimates that casualties will be counted in the tens of thousands. With the large number of burns and mechanical injuries expected, the immunization of the population against tetanus should be considered. Disruption of water supply and sewage disposal systems would suggest immunization against organisms infecting the digestive tract. The demand for blood transfusions suggests the advisability of pretyping the population and devising some method of indicating each person's type. The psychologic preparation of the public is of vital importance. False complacency through overoptimism will lead to a severe psychologic shock. Overemphasis of the devastation produced may lead to panic. Since light-colored loose clothing furnishes good protection against flash burns, the cooperation of clothing designers may be important. If the bomb is detonated high in the air, residual radioactivity will not be a problem. Casualties from immediate radiation have in the past comprised between 15 and 20 per cent of the patients treated. Good nursing care and use of blood transfusions, antibacterials, vitamin C and intravenous administration of dextrose and sodium chloride will be the most important factors in the treatment.

New England Journal of Medicine, Boston

238:857-890 (June 17) 1948

Osteoarthritis of Cervicodorsal Spine (Radiculitis) Simulating Coronary-Artery Disease: Clinical and Roentgenologic Findings. D. Davis and M. Ritvo.—p. 857.
*Uterine Cancer: Its Early Detection by Simple Screening Methods. D. J. McSweeney and D. G. McKay.—p. 867.
Brill's Disease: Report of 2 Serologically Proved Cases of Typhus Fever in Irish-Born Residents of Boston. H. R. Morgan, F. A. Neva, R. J. Fahey and M. Finland.—p. 871.
Use of Benadryl in Parkinson's Disease: Preliminary Report of 8 Cases. J. Budnitz.—p. 874.
Intercapillary Glomerulosclerosis. P. Kimmelstiel and W. B. Porter.—p. 876.
Adenocarcinoma of Common Bile Duct and Papilla of Vater.—p. 880.
Colloid Goiter, with Cyst Formation.—p. 883.

Screening Methods for Detection of Uterine Cancer.—A year ago McSweeney and McKay started a clinic for the early detection of cancer of the uterus at the Boston City Hospital. All departments of the hospital have been requested to refer as many women over 35 years of age as possible to the gynecologic clinic for "screening," which consists of a gynecologic history, with special attention to abnormal bleeding and vaginal discharges, a pelvic examination, a speculum examination and a vaginal smear. The last is most valuable as a test to determine patients that may require diagnostic curettage or cervical biopsy not otherwise indicated by the history and pelvic examination. In one year 639 patients were examined and 934 smears studied. Of 54 cases of cancer, 51 were diagnosed correctly by smear. Six cases of carcinoma, which might otherwise have been neglected, were detected by the vaginal smear technic, and 6 others were detected simultaneously by biopsy and smear.

238:891-922 (June 24) 1948

*Focal Epilepsy: Statistical Study of Its Causes and Results of Surgical Treatment. I. Epilepsy Secondary to Intracranial Tumors. J. C. White, C. T. Liu and W. J. Mixter.—p. 891.
Swimming Pools: Their Relation to Illness. J. R. Gallagher.—p. 899.
Mycotic Aneurysm of Brachial Artery After Cure of Bacterial Endocarditis: Successful Treatment by Surgical Excision. A. Hurwitz and D. B. Arst.—p. 903.
Primary Hemangioendothelioma of Liver in Infancy: Report of Case. S. W. Berezin, J. G. Sharnoff and J. D. Stein.—p. 906.
Intercapillary Glomerulosclerosis. P. Kimmelstiel and W. P. Porter.—p. 908.
Chronic Inactive Pulmonary Tuberculosis. Oleothorax. Amyloidosis of Kidney, Spleen and Adrenal Glands.—p. 912.
Metastatic Renal Adenocarcinoma.—p. 915.

Epilepsy Secondary to Intracranial Tumors.—White and his associates state that of 1,130 patients admitted to the Massachusetts General Hospital with epilepsy in the decade 1935 to 1944, inclusive, 240 had seizures arising from an area that could be localized by clinical signs, pneumography and electroencephalography. In all these cases the disease has been verified by exploratory craniotomy. The authors have divided this series into two groups: 160 cases of cerebral compression caused by intracranial tumors and 80 cases of acute or chronic epilepsy due to trauma or infection. Epilepsy is a common complication of brain tumors, accompanying approximately one out of every three such growths when the hemispheres are compressed or invaded. When a middle-aged patient complains of epilepsy of recent onset, occurring without previous trauma or infection, tumor of the brain is the most probable diagnosis. The tumor with accompanying early seizures is most likely to be growing slowly and situated near the surface of the hemisphere, either a meningioma or astrocytoma or an oligodendroglioma. If atten-

tion is paid to this important sign, an early search can be made for the lesion and radical excision attempted before the patient has reached the critical advanced stage. Chances of "curing" the convulsive state, however, are not good. In 33 cases of astrocytoma no patient has had an apparent cure, and in only 8 have the frequency and severity of the seizures been significantly reduced. Epileptic convulsions have continued in the remaining 22, owing to the surgical difficulty of totally eradicating the diffusely invasive forms of astrocytoma or avoiding the irritative action of the contracting scar after radical removal of these tumors. Three others suffered their first convulsions after operation. Of 4 patients with oligodendroglioma, 1 has been entirely relieved of his seizures and another greatly improved. In the more malginant glioblastoma multiforme and metastatic carcinoma of the brain benefits obtained persisted for only a few months. Lesions of the basal ganglions and third ventricle are infrequently a cause of epilepsy. Tumors limited to the posterior fossa usually produce atypical seizures associated with transitory attacks of vertigo, syncope and irritation of the lower cranial nerves. This syndrome, classified as "ictus subtentorialis," is caused by compression of pons or medulla. In the rare case in which typical major seizures occur, it is usually found that a medulloblastoma has implanted itself above the tentorium.

New Orleans Medical and Surgical Journal

100:539-596 (June) 1948

*Clinical Observations on Treatment of Alcoholic. R. C. Young.—p. 539.
Myxedema: Report of Ten Cases from General Hospital. E. F. Chanton and M. D. Hargrove.—p. 546.
Human Equine Encephalomyelitis, Eastern Type, in Louisiana. G. H. Hauser.—p. 551.
Chromomycosis: Report of Case from Louisiana with Discussion of Its Clinical and Mycologic Features. L. K. Mundt and M. Moore.—p. 558.
Tracheotomy with Complication of Pneumothorax. A. Thomas and N. W. Holland.—p. 565.
Myocardial Aneurysm Causing Esophageal Obstruction: Report of Case Presenting Double Cardiac Aneurysm with Severe Dysphagia Necessitating Gastrostomy. M. Isaacson.—p. 568.
Papilloma of Gallbladder: Case Report. G. McHardy and E. Edwards.—p. 573.
Repair of Parotid Duct Fistula with One Case Report. L. H. Stander and C. C. Craighead.—p. 574.

Treatment of Alcoholic Addicts.—Young reports on study of 2,275 sanitarium cases of alcoholism, the majority of which were observed and studied for at least four weeks. He found that every addict to alcoholism has a psychiatric problem, which varies in intensity from case to case. The nutritional and vitamin imbalance produced by alcoholism is most important, and improvement in the nutritional state is frequently accompanied by improvement in the psychiatric symptoms. The vast majority of alcoholic addicts should be institutionalized for study and treatment. Every alcoholic addict given the proper help can get well and stay well, provided that he accepts the fact that under no circumstance can he take an alcoholic drink of any type.

New York State Journal of Medicine, New York

48:1313-1422 (June 15) 1948

*Diagnosis of Primary Carcinoma of Lung. D. Woodman.—p. 1359.
Volvulus of Sigmoid Colon. V. D. Woronov, B. S. Epstein and H. W. Louria.—p. 1364.
Use of Recovery Room in Lowering Maternal Mortality. L. F. McLean, H. C. McDowell and M. G. Sadugor.—p. 1368.
Comparative Studies with Some Newer Tests for Hepatic Dysfunction. H. K. Linder, M. Bruger and C. H. Greene.—p. 1371.
Association of Psychosomatic Disorders and Their Relation to Personality Types in Same Individuals. E. Moschcowitz and Mata B. Roudin.—p. 1375.
Electrocardiogram in Infectious Mononucleosis. H. L. Jaffe, L. E. Field and A. M. Master.—p. 1382.
The Nitrofurans. L. E. Daily.—p. 1386.
Coccidioidomycosis in Veterans of World War II. H. E. Bass and A. Schomer.—p. 1391.

Diagnosis of Carcinoma of Lung.—Woodman stresses that early diagnosis depends on efforts to shorten the time between the appearance of first symptoms and diagnosis (forty-five weeks) and the period between the patient's first seeking medical care and the final diagnosis (seventeen and a half weeks). Once the patient is in a hospital where the diagnostic team is available, the time of arriving at a diagnosis is not long. In 105 patients it averaged ten days. The author reviews 116 cases of primary carcinoma of the lung. The average age of the patients was 55 years. Ten of the patients—that is, less than 10 per cent—were women. The chief symptoms were: chronic productive cough, pain, loss of weight, weakness and dyspnea, with bloody sputum and frank hemoptysis generally late symptoms. The author discusses the diagnostic value of roentgenoscopy, bronchoscopy and biopsy. Means of hastening the diagnosis of primary carcinoma of the lung include earlier investigation of a cough of unknown origin. Patients with a cough of more than three weeks' duration should have roentgen examination of their chests. The diagnostic advantages of a hospital where the internist, roentgenologist, bronchoscopist and thoracic surgeon can act as a team in making the diagnosis should be resorted to early.

Northwest Medicine, Seattle

47:397-470 (June) 1948

Prefrontal Leukotomy: Neurosurgical Aspects. F. Turnbull.—p. 414.
Prefrontal Leukotomy: Selection of Patients. A. E. Davidson.—p. 417.
Prefrontal Leukotomy: Aftercare and Rehabilitation. R. L. Whitman.—p. 419.
*Transorbital Lobotomy: Preliminary Report of 41 Cases. C. H. Jones and J. G. Shankin.—p. 421.
Paraphysical Cyst of Third Ventricle. W. B. Dublin.—p. 427.
Modern Methods of Cranioplasty. H. J. MacKay.—p. 430.
Modern Concepts of Pathologic Physiology of Bronchial Asthma. H. Miller.—p. 432.
Recurring and Chronic Cough in Children. Role of Sinusitis. E. E. Brown.—p. 435.
Treatment of the Acute Asthmatic. J. E. Stroh.—p. 438.
Hay Fever in Seattle Area: Counts of 1945-1946 Seasons. E. F. Deppe.—p. 439.

Transorbital Lobotomy.—Jones and Shanklin direct attention to the transorbital approach to the brain, which was developed by Framberti on the basis of the work of Moniz and others. The authors report 41 cases in which Freeman's method of transorbital lobotomy was employed. Beneficial effects were produced in four fifths of the 35 patients in whom more than one month had elapsed since operation. Transorbital lobotomy has produced no deaths or major postoperative complications. A unilateral ptosis of the upper eyelid was produced in 4 cases, but this gradually disappeared without residual paralysis. Prefrontal lobotomy can be performed safely by means of the transorbital technic. It does not produce demonstrable postoperative disability and may cause the disappearance of the physiologic and psychologic components of tension. Transorbital lobotomy may be considered for the patient not permanently aided by electroshock but in whom a major lobotomy might not be indicated. Transorbital lobotomy parallels the more radical procedure in that its postoperative course in successful cases is accompanied by decided relief from anxiety and inner turmoil.

Physiological Reviews, Baltimore

28:139-282 (April) 1948

Neural Control of Pituitary Gland. G. W. Harris.—p. 139.
Fertilization and Immunity. A. Tyler.—p. 180.
Chemoreception in Insects. V. G. Dethier and L. E. Chadwick.—p. 220.
Use of Microorganisms for Assay of Vitamins. E. E. Snell.—p. 255.

Psychosomatic Medicine, Baltimore

10:71-130 (March-April) 1948

Studies on Epilepsy: Petit Mal Attack as Response Within Central Nervous System to Distress in Organism-Environment Integration. W. Barker.—p. 73.
Psychiatric Implications of Kinsey Report. L. S. Kubie.—p. 95.
Psychomotor Syndrome Associated with Heterotopic Pancreatic Adenoma. E. L. Sevringhaus.—p. 109.
Orientation Chart in Teaching of Psychosomatic Medicine. M. Levine.—p. 111.
Whealing Response to Light and Cold with Note on Mechanism and Origin of Physical Allergies. H. A. Abramson.—p. 114.

Public Health Reports, Washington, D. C.

63:805-836 (June 18) 1948

Role of Dentist in Oral Cancer Detection. R. S. Lloyd.—p. 805.
Objectives and Program of Arkansas Cancer Detection Project. A. N. Koplin.—p. 813.

63:837-864 (June 25) 1948

National Mental Health Program: Progress Report. R. H. Felix.—p. 837.
Studies of Acute Diarrheal Diseases: XXI. Salmonellosis in Florida. Mildred M. Galton and A. V. Hardy.—p. 847.

63:865-900 (July 2) 1948

Liquid Ascitic Medium for Isolation of Mycobacterium Tuberculosis from Pathologic Material. L. Šula.—p. 867.
Emotional Factors in Tuberculosis. A. O. Ludwig.—p. 883.

Rocky Mountain Medical Journal, Denver

45:353-448 (May) 1948

Advent of Socialized Medicine in Britain. J. W. Sinney.—p. 373.
Concept of Preoperative and Postoperative Surgical Therapy. C. G. Heyd.—p. 376.
End Results of Operative Treatment of Low Back Pain. E. Parnall and T. Moore.—p. 379.
Evaluation of Present Treatment of Toxic Goiter. G. B. Kent.—p. 382.
Obstetric Hemorrhage. L. W. Mason.—p. 388.

45:449-536 (June) 1948

Malaria in Utah. H. L. Marshall and D. M. Rees.—p. 469.
Progressive (Disseminated) Coccidioidomycosis During Pregnancy. J. C. Mendenhall, W. C. Black and G. E. Pottz.—p. 472.
Differential Diagnosis of Sciatic Pain. R. M. Stuck.—p. 477.
Congenital Diaphragmatic Hernia Through Pleuroperitoneal Canal (Foramen of Bochdalek). H. Swan.—p. 480.
Functions of County Medical Society. H. L. January.—p. 488.

South Carolina Medical Assn. Journal, Florence

44:187-220 (June) 1948

President's Address. O. B. Chamberlain.—p. 187.
Case of Dysgerminoma with Description of Recurrence. R. B. Durham, D. F. Adcock and C. A. Sweatman.—p. 190.
Peptic Ulcer of Esophagus: Report of Case. Gertrude R. Holmes. —p. 193.
Public Health and Protein Nutrition. H. M. Carter Jr.—p. 195.

Southern Surgeon, Atlanta, Ga.

14:351-412 (June) 1948

Tuberculous Abscess of Thyroid Gland: Report of Case. W. M. Stubbins and R. F. Guthrie.—p. 351.
Vascular Spasm: Review. R. B. Pomerantz.—p. 358.
Early Rising After Major Abdominal Surgery. I. L. Greenberg.—p. 375.
Embolus of the Femoral Artery: Report of Case. L. H. Battle Jr. —p. 387.
Tuberculosis of Breast. T. P. Dann.—p. 391.
Surgery of Sympathetic Nervous System. J. H. Johnston Jr.—p. 397.
Prevention of Postoperative Pulmonary Complications of Upper Abdominal Surgery with Intercostal Nerve Block. J. Canipelli.—p. 404.

Surgery, Gynecology and Obstetrics, Chicago

87:1-104 (July) 1948

Study of Peripheral Vascular Disease with Radioactive Isotopes—Part I. D. C. Elkin, F. W. Cooper Jr., R. H. Rohrer and others.—p. 1.
Observations on Production of Pericordial Adhesions and Ligation of Coronary Arteries. A. W. Boone and D. S. Hubbell.—p. 9.
Principles Old and New of Resection of Colon for Carcinoma. L. S. McKittrick.—p. 15.
Effect of Heparin on Wound Healing. E. M. Alrich and E. P. Lehman. —p. 26.
Preservation of Function in Cystic and Sclerotic Ovaries: Report of 16 Cases of Single Ovary. P. Jacobson.—p. 31.
Treatment of Empyema with Topical and Systemic Penicillin and Other Antibacterial Agents: Analysis of 20 Cases. W. E. Burnett, G. P. Rosemond, J. H. Hall and H. T. Caswell.—p. 44.
Effect of Streptomycin in Experimental Strangulation of Bowel. H. A. Davis, J. Gaster, R. L. Marsh and P. A. Pritel.—p. 63.
"Buried Epidermis" Graft. E. Bors and A. E. Comarr.—p. 68.
Treatment of Congenital (or Developmental) Coxa Vara. T. Horwitz. —p. 71.
*Effect of Tetra-Ethyl Ammonium Chloride on Gastric Secretion and Acidity in Peptic Ulcer. J. M. Ferrer Jr.—p. 76.
*Transition of Pancreatic Edema into Pancreatic Necrosis. H. L. Popper, H. Necheles and K. C. Russell.—p. 79.
Self Centering Lorenz Osteotomy. C. Scuderi.—p. 83.
Factors Influencing Mortality from Acute Perforated Peptic Ulcers. W. T. McElhinney and C. E. Holzer Jr.—p. 85.
*Intravenous, Subcutaneous and Rapid Intramuscular Infusions of "Protein Hydrolysate." J. J. Weinstein.—p. 93.

Effect of Tetraethyl Ammonium Chloride on Acidity in Peptic Ulcer.—Ferrer points out that investigations by Acheson, Moe, Lyons and their co-workers indicate that tetraethyl ammonium salts produce an effective block of all autonomic nerve impulses, both sympathetic and parasympathetic, and that this block occurs at the autonomic ganglions. One of the many effects of this block is reported to be a decrease in gastrointestinal motility and in the volume and acidity of the gastric juice. An investigation was undertaken to determine whether the excessive night secretion in patients with peptic ulcer could be prevented by vagus nerve block with tetraethyl ammonium chloride ("etamon chloride"). The block produced by tetraethyl ammonium chloride is not a pure vagal block but a combination of vagal plus sympathetic block. The drug prevented excessive night gastric secretion and acidity in twelve of seventeen tests of patients with peptic ulcer. Intramuscular dosage of approximately 20 mg. of tetraethyl ammonium chloride per kilogram of body weight is usually adequate to produce this effect if repeated at intervals of four hours but is not uniformly adequate at intervals of six hours. When the compound was given at four hour intervals, excessive night gastric secretion and acidity were inhibited in 6 of 7 patients with peptic ulcer. No serious toxic or side effects were noted. Transient fall in both systolic and diastolic blood pressures was noted after administration of the drug. Therapeutic trial of the effect of tetraethyl ammonium chloride on the symptoms and healing of peptic ulcers is warranted and will be undertaken.

Transition of Pancreatic Edema Into Necrosis.—Popper and his co-workers show that the usual pathogenetic mechanism of acute pancreatitis is a block either by stone or spasm at the papilla of Vater in the presence of a common channel between common bile duct and pancreatic duct. The subsequent increase of pressure in the duct system and the intraductal activation of pancreatic juice are regarded as causes of acute pancreatitis. The presence of a common channel was observed in nine tenths of the cases of pancreatic edema, of acute pancreatitis and of pancreatic necrosis. This, together with the observation that transition of pancreatic edema into acute pancreatitis occurred, suggested that these processes were related. The method used by the authors for experimentally producing pancreatic edema consisted in stimulation of external pancreatic secretion by intravenous injection of a large dose of secretin after ligation of the main pancreatic duct or of the main and accessory ducts. Since the authors did not succeed in producing pancreatic necrosis by increasing or prolonging the edema-producing administration of secretin, it became apparent that pancreatic necrosis or hemorrhagic pancreatitis is not merely a later stage of pancreatic edema. Procedures such as obstruction of lymphatic drainage or of venous return from an edematous pancreas, or the production of shock in dogs with edema of the pancreas, did not elicit necrosis. Positive results were obtained with temporary occlusion of the main pancreatic artery, if performed while edema of the pancreas was present. The important fact is that temporary local ischemia is able to transform a clinically harmless transient edema of the pancreas into hemorrhagic pancreatic necrosis. The clinical applications of these experimental observations are: 1. Local vasomotor changes may be responsible for the transition of pancreatic edema into pancreatic necrosis. 2. The extent of local vasomotor changes may determine the degree of pancreatitis. 3. If acute pancreatitis is diagnosed or its presence is suspected, everything should be done to make a presumably existing edema disappear and to avoid local ischemia. To make the edema disappear it seems best to give spasmolytics which will relax the sphincter of Oddi, to prevent any stimulation of the external secretion of the pancreas and to attempt its active inhibition. Local vasomotor changes are nothing unusual after surgical procedures, and this may in part explain the poor results of surgical intervention in acute pancreatitis.

Infusions of Protein Hydrolysate.—The solution used by Weinstein was a 5 per cent protein hydrolysate in distilled water. The source of the protein was bovine blood, collected under sanitary conditions, processed and hydrolyzed by means of a pancreatic enzyme preparation. The hydrolysate is then treated to remove harmful constituents and diluted to the desired concentration. Filled sealed bottles of the solution are sterilized by autoclaving and packaged in 500 or 1,000 cc. containers. In 2,003 consecutive intravenous infusions of 1,000 cc. each, in 320 preoperative and postoperative surgical patients there were 0.72 per cent reactions. Four hundred and twenty subcutaneous infusions of 1,000 cc. were given at a rate of 6.25 cc. per minute in 126 patients without local difficulties. One hundred and seventy intramuscular injections of 1,000 cc. of protein hydrolysate in 78 patients at a rate of 33 cc. per minute show rapid absorption in three hours, no irritations or local reactions, no failure of absorption and a negligible amount of pain or discomfort. A comparison of intravenous, subcutaneous and intramuscular infusions is made, and the advantages and disadvantages of each route are discussed. Bovine protein hydrolysate is a safe parenteral fluid for patients who require proteins by intravenous, subcutaneous and intramuscular routes.

Urologic & Cutaneous Review, West Palm Beach, Fla.

52:249-312 (May) 1948

Modification of the Millin Technic of Extravesical Suprapubic Prostatectomy. P. Pieraccini.—p. 249.
Unusual Pathogenetic, Clinical and Diagnostic Aspects of Some Hydronephroses. G. D'Errico.—p. 252.
*Streptomycin in Treatment of Tuberculosis and Mixed Infections of Genito-Urinary Organs. F. H. Redewill and J. E. Potter.—p. 259.
Evolution in Renal Surgery. A. Babics.—p. 268.
Streptomycin and the Urologist. J. C. Negley and E. Rogen.—p. 272.
Sex in Man. J. F. McCahey.—p. 273.
Infection of Upper Urinary Tract During Pregnancy and Puerperium. A. C. Butts.—p. 288.

Streptomycin in Tuberculous and Mixed Infections of Genitourinary Organs.—Redewill and Potter review the literature and their own experiences with antibiotics and chemotherapeutic substances in the treatment of infections, particularly of tuberculosis of the genitourinary tract. Dosage of streptomycin should be small in treating infection of genitourinary organs because antibiotics are rapidly excreted by the kidneys and 1 Gm. daily produces 100 micrograms per cubic centimeter, which is ample to check infections. Streptomycin has a delayed sustained action if given only twice a day for forty-five to sixty days, with two to three weeks' vacation, provided that urine is kept alkaline and there is no gross obstructive pathologic change in the urinary tract. A simplified method of antibiotic assay is reported. Penicillin will cure most coccic infections; streptomycin mostly gram-negative rod and coccic as well as tuberculosis infections. Penicillin and streptomycin are symbiotic. Still greater symbiosis exists between penicillin and sulfadiazine and streptomycin and the sulfones. The most active and least toxic of all is the combination of streptomycin and "promizole" (4,2'-diaminophenyl-5'-thiazolylsulfone). Iontophoresis, quartz light and vitamins are necessary adjuncts in treating tuberculosis of the urinary bladder. Vesical and other urinary tract ulceration will heal more rapidly with increased nitrogen intake if the average protein level is low. Of 22 patients with tuberculosis of the genitourinary tract, 2 showed no improvement, but the others were either improved or apparently cured. This group included cases of tuberculous cystitis, nephritis and prostatitis. The authors also report 120 cases of acute and chronic nontuberculous urologic infection. Their percentage of cure and improvement was highest of any reported in the literature. They did not use streptomycin in cases in which it was to be expected that streptomycin fastness would develop, and they used in combination sulfonamide compounds, streptomycin and penicillin.

Virginia Medical Monthly, Richmond

75:325-378 (July) 1948

Pregnancy and Diabetes. W. R. Jordan.—p. 325.
Medical Practice on Virginia Peninsula Sixty Years Ago. C. D. Bradley and Miriam D. Bradley.—p. 328.
Rheumatic Diseases in Southwestern Virginia. R. E. Glendy.—p. 334.
Ocular Emergencies. W. P. McGuire.—p. 338.
*False Positive Serologic Test. J. W. Love.—p. 341.
History—Important Factor in Diagnosis of Coronary Thrombosis. E. L. Copley.—p. 346.
Primary Spontaneous Pneumothorax. A. L. Kruger.—p. 351.
Penicillin in Cardiovascular Syphilis. R. R. Porter.—p. 357.
Co-Existence of Organic and Psychosomatic Disease—Case Report. Elizabeth M. Cover.—p. 359.
Country Doctor, 1947. N. H. Wooding.—p. 361.
Foreign Body—Open Safety Pin in Esophagus of Infant—Report of Unusual Case. P. P. Vinson.—p. 363.

False Positive Serologic Reaction.—Love emphasizes that one serologic test, be it complement fixation or flocculation or precipitation, does not suffice for a diagnosis of syphilis. The test is subject to error, human, inherent, and of interpretation. Most biologic false positive reactions will be encountered in the following circumstances: (*a*) There has been vaccination for smallpox within the three preceding months, especially with "take." (*b*) Certain febrile diseases, the more important of which are malaria, infectious mononucleosis, virus pneumonia, influenza and mumps. Many other diseases are capable of producing biologic false positive serologic reactions, but are of less importance because of the uncommonness of the disease itself or a small incidence of false positive reactions resulting therefrom. Included in this latter group are typhus, leprosy, chancroid, lymphogranuloma venereum, Weil's disease, relapsing fever, rat bite fever, Rocky Mountain spotted fever, disseminated lupus erythematosus and septicemia. The author discusses technical errors, false positive reactions of the newborn, paradoxical false positive reactions and the general biologic false positive reaction in spirochetal, virus and other diseases. False positive serologic reactions in the spinal fluid have been reported in brain tumor, encephalitis and malaria and mumps. These are rather rare, especially in their relationship to false positive reactions in the blood.

Western J. Surg., Obst. & Gynecology, Portland, Ore.

56:317-376 (June) 1948

*Usual and Unusual Findings in Cervix Uteri at Time of Repair Immediately Following Delivery: Preliminary Report. M. V. Sheets.—p. 317.
Six Cases of Primary Carcinoma of the Fallopian Tube. L. A. Emge.—p. 334.
Effect of Sex Steroids on Experimental Goiter and Iodine Storage in the Thyroid. F. X. Gassner, H. W. Barrett and R. G. Gustavson.—p. 346.
Pfannenstiel Incision for Cesarean Section. D. W. DeCarle and R. B. Durfee.—p. 360.
Technic of Subtotal Thyroidectomy. E. R. Sanderson.—p. 365.
Painful Motions of Thumb: Stenosing Tenosynovitis of Flexor Pollicis Longus. D. C. Hucherson and F. R. Denman.—p. 370.

Postpartum Cervix.—Sheets examined microscopically small pieces of tissue from cervix uteri, removed in the course of repair immediately following delivery in 200 consecutive cases. Decidual reactions occurred in 40 per cent of the specimens. Portions of Gartner's duct were observed in specimens from the cervical rim in 2 per cent of all instances. Proliferation of unripened squamous cells, marginally invading columnar epithelium or stroma, was seen at a rate of 12 per cent and produced patterns described by Novak as "epidermization." "Metaplasia," or rather atypical abberant epidermoid epithelium, appeared in glands or in areas replacing surface columnar epithelium or in continuation of normal squamous epithelium with sufficient frequency (71 per cent) to be considered as not unusual during pregnancy. Benign hyperplasia was observed in less than 10 per cent of all specimens. Intraepithelial preinvasive cancer occurred only in the presence of invasion in other parts of the specimen. Clinically unsuspected, grossly not demonstrable invasive carcinoma of the cervix uteri occurred twice in a series of 200 cases. No clinical symptoms appeared in these histologically proved cases during six months of observation following delivery. The frequency of normal and abnormal tissue behavior in the cervix during pregnancy or immediately following delivery cannot be correctly evaluated on the basis of clinical observation alone, but requires microscopic examination.

Wisconsin Medical Journal, Madison

47:557-651 (June) 1948

Cardiac Function Test Based on Anoxia Induced by Rebreathing Air. A. A. Holbrook and H. H. Shapiro.—p. 571.
Practical Aspects of Diagnosing Brain Tumors. R. H. Quade.—p. 583.
Objectives in Management of Children with Diabetes Mellitus. R. L. Jackson.—p. 587.
Protein and Amino Acid Utilization. O. V. Hibma.—p. 590.
*Occupational Medicine, Past and Present as It Concerns Management, Worker, and Medical Department, Doctor, and Nurse Alike. E. L. Belknap.—p. 594.
So-Called "Connell Suture." F. G. Connell.—p. 599.

47:653-744 (July) 1948

Treatment of Subacute Bacterial Endocarditis with Penicillin and with Streptomycin. J. T. McCoy and O. O. Meyer.—p. 671.
Treatment of Metastatic Bone Tumors. M. I. Smedal and F. A. Salzman.—p. 675.
Some Thoughts on Surgery of Retinal Detachment. D. Vail.—p. 687.
Serology and Obstetrics. R. T. LaVake.—p. 690.
Management of Nephrotic Syndrome in Chronic Glomerulonephritis. A. W. Hilker.—p. 693.

Occupational Medicine.—Belknap shows that lead is the most common toxic dust and that mercury poisoning may mimic intestinal flu. Cadmium fumes attack the alveoli. Benzine, although a cheap solvent, is a dangerous hematoxin. Carbon tetrachloride is a fatal nephrotoxin and arsine is more deadly than cyanide. Occupational medicine is as broad as internal medicine. Physicians should familiarize themselves with the technics and hazards of industry.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted. Single case reports and trials of new drugs are usually omitted.

Australian J. Exper. Biol. & M. Science, Adelaide

26:107-198 (March) 1948. **Partial Index**

*Pharmacologically Active Substance in Serum and Platelets Which Stimulates Suprarenal Medulla. G. Reid.—p. 107.
Metabolism of Erythrocytes: I. Respiration in Absence and Presence of Methylene Blue. P. M. Nossal.—p. 123.
Possibility of Dual Nature of Sympathetic Ganglion Cells. F. H. Shaw, Patricia Keogh and Monica MacCallum.—p. 139.
Pharmacology of Quinine Methiodide. F. H. Shaw, Patricia Keogh and Monica MacCallum.—p. 147.
New Therapy of Ophidiasis. E. R. Trethewie and A. J. Day.—p. 153.

Substance in Serum and Platelets That Stimulates Suprarenal Medulla.—Reid found that in the serum of the cat and in extracts of the buffy coat of horse blood there is a diffusible, relatively heat-stable substance which, when injected into the arterial supply of the adrenal gland of the cat, causes an increase in blood pressure and heart frequency and contraction of the denervated nictitating membrane. These effects are due to the liberation of epinephrine from the adrenal gland. The active substance acts directly on the cells of the medulla and not through the preganglionic fibers. The activity cannot be attributable to histamine, potassium, adenyl compounds, hydroxyphenethylamine or a choline ester.

British Journal of Ophthalmology, London

32:321-384 (June) 1948. **Partial Index**

Ox Vitreous Humor. 1. Residual Protein. A. Pirie, G. Schmidt and J. W. Waters.—p. 321.
Variation of Pupil Size with Change in Angle at Which Light Stimulus Strikes the Retina. K. H. Spring and W. S. Stiles.—p. 340.
Apparent Shape and Size of Pupil Viewed Obliquely. K. H. Spring and W. S. Stiles.—p. 347.
Alteration in Size of Normal Optic Disk Cup. R. Pickard.—p. 355.

British Journal of Surgery, Bristol

35:337-456 (April) 1948

Study in Intravascular Thrombosis with Some New Conceptions of Mechanism of Coagulation. H. Cummine and R. N. Lyons.—p. 337.
Surgery of Duodenal Ulcer. C. Wells and A. C. Brewer.—p. 364.
Some Interesting Gastrojejunal Lesions. J. Moroney.—p. 374.
Surgical Treatment of Anastomotic Ulcer: Analysis of 38 Cases. F. S. A. Doran.—p. 377.
Important Anomaly of Right Hepatic Duct and Its Bearing on Operation of Cholecystectomy. M. Paul.—p. 383.
Occult Bone Metastases. R. Shackman and C. V. Harrison.—p. 385.
Whole Skin-Graft Repair of Inguinal Hernia: Account of 163 Operations, with Follow-Up of 136 Operations at 12 Months. C. M. Marsden.—p. 390.
Indirect Inguinofemoral Hernia. T. A. Quilliam.—p. 395.
*Trauma of Hand. J. McK. Duncan.—p. 397.
Perirenal Tumors with Report of Further Case of Perirenal Fibrosarcoma. H. G. Hanley.—p. 406.
Osseous Dystrophy with Many Pseudo-Fractures. J. F. Curr.—p. 411.
Rehabilitation of Fractures. J. J. R. Duthie, J. G. Macleod and R. J. G. Sinclair.—p. 414.
Epiphrenic Diverticulum of Esophagus with Report of Case Treated Surgically. W. R. Forrester-Wood.—p. 418.
Foreign Body Perforations in Meckel's Diverticulum. D. A. MacFarlane.—p. 421.
Chronic Thyroiditis: Case Showing Features of Both Riedel's and Hashimoto's Thyroiditis. W. R. Merrigton.—p. 423.
Carcinoma in Thoracic Stomach (Congenital Short Esophagus). R. Mailer.—p. 426.
Paralaryngeal Actinomycosis: Report of Early Case with Short Review of Condition. P. Childs.—p. 429.

Trauma of Hand.—Duncan reports on 42 consecutive cases in which flexor tendons were divided within their sheaths. Here primary repair holds out infinitely better prospects of functional recovery than delayed procedure. If repair of a divided tendon is delayed six months or more the muscle belly of that tendon may have undergone such changes that repair by graft may offer little prospect for good function. It is wise under these circumstances to transplant to the damaged finger a tendon with a fully functioning muscle belly. He also reports on tears of the extensor tendons around the terminal interphalangeal joint. The loss of controlled apposition of the pulp of the index or middle finger to the pulp of the thumb is a handicap to any precision worker. In the middle and little fingers the loss of terminal joint movement adversely affects the power of grip so essential to heavy work. This report is based on experience in treating 60 of these injuries. Open operation on the tears has revealed two main groups of mallet finger: 1. The tendon insertion at the dorsal margin of the base of the terminal phalanx is avulsed with a fragment of bone. 2. The nonfracture type of mallet finger is caused by a tear of the extensor tendon at some point between its insertion and the triangular fascia of Bunnell. In mallet finger the flexion deformity of patients with synovial damage was roughly twice that of those that had not. The amount of active movement recovered was on the average 20 per cent higher in cases in which there was no damage to the synovium. The operative technic of treating mallet fingers, based on the recognition of the different types of lesion, can offer the patient a useful finger with the minimal degree of flexion deformity.

British Medical Journal, London

1:1061-1120 (June 5) 1948

Lipotropic Factors in Experimental Cirrhosis. E. A. Sellers, C. C. Lucas and C. H. Best.—p. 1061.
Pneumoconiosis of Coal Miners. C. M. Fletcher.—p. 1065.
Intestinal Lesions in Malignant Hypertension: With Report of Case. G. J. Cunningham.—p. 1075.
*Siliceous Granuloma Due to Talc: Case of Post-Operative Peritoneal Adhesions. W. A. Mackey and J. B. Gibson.—p. 1077.
*"Tuberculosis" (Coexistent with Carcinoma of Uterus) Shown to Be Siliceous Granuloma. G. H. Smith.—p. 1078.
Siliceous Granuloma Due to Surgical Talc as Cause of Peritoneal Adhesion. W. Walker.—p. 1079.
Liver in Infective Hepatitis. K. Damodaran.—p. 1079.
Torula Histolytica Infection of Central Nervous System. F. R. Magarey and P. H. Denton.—p. 1082.

Postoperative Adhesions Caused by Talc.—Mackey and Gibson report the case of a woman, aged 74, in whom splenectomy was followed thirteen days later by a second operation because of continued bleeding into the alimentary tract. The second operation disclosed extensive dense adhesions. Histologic evidence is presented that these arose as a result of deposition of small amounts of talc at the time of the first operation.

Suspected "Tuberculosis" Proved to be Siliceous Granuloma.—The case presented by Smith had been reported previously as an example of a rare coexistence of carcinoma and tuberculosis in the same organ. The diagnosis of tuberculosis was made on histologic grounds, despite failure to demonstrate acid-fast organisms in the sections. Roberts in 1947 proved that granulomas occurring in the fallopian tube, with a histologic picture closely resembling tuberculosis, may be siliceous and not tuberculous: these foreign body granulomas apparently follow the introduction of talc (surgical gloves) into the peritoneum. Smith reinvestigated his case and gained the impression that the original diagnosis of tuberculosis was inaccurate and that of siliceous granuloma more likely. The patient had undergone appendectomy five months prior to hysterectomy for carcinoma of uterus. Microscopy revealed the presence in the fallopian tube of a pseudotuberculosis granuloma with giant cells containing doubly refractive material, almost certainly surgical talc.

Journal of Royal Army Medical Corps, London

90:133-174 (April) 1948

Health Education in the Army. H. J. A. Richards.—p. 133.
Curare as Adjuvant to Anesthesia in Military Practice. W. H. Scriven and K. F. Stephens.—p. 149.
March Hemoglobinuria: Review. M. Lubran and J. Sakula.—p. 155.
Morbid Conditions of Knee-Joint in East African Askaris with Particular Reference to Etiology and Pathology. H. B. Young.—p. 161.

90:175-218 (May) 1948

Effects of Heat with Special Reference to Its Occurrence in British Troops in Persian Gulf Area in 1941-2. W. Stewart.—p. 178.
*Traumatic Arteriovenous Fistula: Treatment and Results. J. M. Matheson.—p. 194.

Traumatic Arteriovenous Fistula.—Twenty-six patients with traumatic arteriovenous fistula were admitted to a peripheral vascular and nerve injuries unit in Edinburgh between 1942 and 1946. There were twenty-seven fistulas in 26 patients. An important factor in the diagnosis was the changes that were elicitable in pulse rate and diastolic blood pressure on digital occlusion of the fistula. The heart was not, as a rule, enlarged, though a postoperative diminution in size was observed. Operative closure of the fistula was delayed until the collateral circulation was established and adequate. The usual operation was quadruple ligation and excision of the sac, and an associated nerve injury, if present, was dealt with at the same time. The

late results of treatment are considered in 23 patients who, with one exception, were gainfully employed. Good functional results were seen in the cases involving a lower limb, in which the peripheral pulses returned whatever the level of arterial ligation. Some patients had intermittent claudication of moderate degree, and a few had residual swelling, probably due to venous obstruction. In the cases involving the neck the residual headache and giddiness could not be explained satisfactorily. The results in the upper limbs were complicated by the associated nerve lesions. The real evidence of successful treatment will probably be obtained in ten to twenty years' time, when the vessels begin to lose their resilience.

Lancet, London

1:853-892 (June 5) 1948

Vitamin-C Requirement of Human Adults: Experimental Study of Vitamin-C Deprivation in Man. R. A. Peters and other members of Vitamin-C Subcommittee of Medical Research Council.—p. 853.
*Residual Symptoms in Graves' Disease After Thyroidectomy. L. Martin. —p. 858.
Floss-Silk Lattice Repair for Inguinal Hernia. R. Maingot.—p. 861.
Anthisan in Treatment of Allergic Rhinitis. A. G. S. Calder.—p. 863.
Non-Suppurative Hepatitis: Report of Case. W. E. King, J. W. Perry, P. J. Parsons and M. Freeman.—p. 864.
Incidence of Chronic Hepatitis in Women in Copenhagen 1944-45. M. Bjørneboe.—p. 867.
Thrombocytopenic Purpura Due to Sensitivity to Sedormid. Stella Instone —p. 869.

Residual Symptoms After Thyroidectomy.—Martin points out that patients who have undergone thyroidectomy for Graves' disease (primary thyrotoxicosis) frequently retain symptoms such as nervousness, palpitations, sweating, tremor and lability of the pulse rate on emotion or exertion, besides some of the ocular signs of thyrotoxicosis. The symptoms are often loosely termed "residual signs of toxicity," but their origin has never been clearly demonstrated, though various causes have been suggested. The author studied 33 patients with primary thyrotoxicosis, in whom thyroid function was normal at intervals ranging from two and a half to ten years after thyroidectomy; 31 retained symptoms at the time of follow-up. Ocular signs were the only true residua of primary thyrotoxicosis. Other symptoms were attributed to constitutional factors, to the emotional effect of the disease and operation or to causes unconnected with either.

New Zealand Medical Journal, Wellington

47:83-190 (April) 1948. **Partial Index**

Behavior Problems in Children. S. L. Ludbrook.—p. 87.
Late Results of Gunshot Wounds of Head. H. Cairns.—p. 95.
Modern Balzac. I. M. Allen.—p. 99.
Intervertebral Disk Disease: Its Recognition and Treatment by General Practitoner. J. H. Young.—p. 106.
Problem of Neurosis in Ex-Soldiers. H. Palmer.—p. 129.
*Multiple Papillary Adenomata of Intestine. L. H. Aitken and D. B. Brown.—p. 139.
Respiratory Depression. R. H. Orton.—p. 143.

Multiple Papillary Adenomas of Intestine.—Aitken and Brown report a man, aged 39, who first presented symptoms in 1934 with the loss of "2 pints of blood" per rectum. He attributed this to prolapse of the bowel, and in reducing this "a dozen small grapelike structures" came away. From that time on he lost blood on approximately six occasions per year. In 1946 after a loss of blood he was examined by sigmoidoscope, and a large papilloma was observed in the sigmoid colon. He continued to lose blood from time to time until October 1947, when he was seized with attacks of violent colic. These attacks were unrelieved by sedatives and were followed by vomiting and dull aching pain in the region of the umbilicus. At operation slight distension of the large bowel leading to a giant papilloma (6 cm. in diameter) in the sigmoid colon was found. There was a large papilloma in the cecum (4 cm. in diameter). About the middle of the small bowel were two tumors (2.5 cm. in diameter). Three additional freely movable papillomas were palpated in the small intestine. The papilloma of the sigmoid and that of the cecum were removed and at a second operation the papillomas of the small bowel were removed. The patient recovered. The authors review the literature and stress that the incidence of papillomas in necropsies varies from 4 to 6 per cent. Such tumors are much more common in the large than the small bowel and are distributed equally between the sexes. Papillomas occur in three forms: smooth polyp, villous papilloma and intestinal polyposis. The commonest symptom is bleeding. Intestinal polyposis is a hereditary disease. Thirty per cent of intestinal papillomas become malignant. The treatment is entirely surgical and consists of either local destruction through the sigmoidoscope, enterostomy and removal of the polyp or colectomy.

Proceedings of Royal Society of Medicine, London

41:261-342 (May) 1948. **Partial Index**

Electronic Apparatus for Immediate Visual Recording of Pulse Rate. W. Rotheram.—p. 283.
Inhibition of Dental Caries by Fluorine. R. Weaver.—p. 284.
Electromyography. P. Bauwens.—p. 291.
Statistical Analysis of Geriatric Care. L. Cosin.—p. 333.
Old Age in General Practice. T. H. Howell.—p. 337.

Quarterly Journal of Medicine, Oxford

17:95-174 (April) 1948

*Schönlein-Henoch Syndrome (Anaphylactoid Purpura). D. Gairdner. —p. 95.
Case of Chronic Porphyria Associated with Recurrent Jaundice. C. H. Gray, C. Rimington and S. Thomson.—p. 123.
Does Sodium Salicylate Cure Rheumatic Fever? J. Reid.—p. 139.
Toxic Manifestations of Sodium Salicylate Therapy. J. D. P. Graham and W. A. Parker.—p. 153.
Experimental Observations on Chronic Agranulocytosis. G. Hickie. —p. 165.

Schönlein-Henoch Syndrome.—Of the 12 patients with the Schönlein-Henoch syndrome reviewed by Gairdner all but 1 were observed by him personally. Ten of the 12 patients were children between 4 and 15 years, and 2 were adults of 40 and 48 years. Previous authors have also found the condition predominantly in childhood. Ten of the 12 patients were male. There is a great variety in the mode of onset, and symptoms from any one of the three sites, skin, intestine or joints, may usher in the illness. A rash was present in all 12 cases. Gastrointestinal symptoms were present in all but 1 of the patients. Eleven of the 12 patients had colic; 8 had blood in the stools, and 6 had vomiting. Articular symptoms occurred in 10 of the 12 patients, varying from transient puffiness of a single joint to recurrent painful swelling of many joints. Nephritis was the most serious aspect of the condition. All except 1 patient showed some renal involvement; in 4 the hematuria was gross, and in 7 the hematuria was microscopic. The subsequent history of these patients shows that the nephritis may go on either to recovery, to latent nephritis, to chronic nephritis or to rapidly developing renal failure and death. The term Schönlein-Henoch syndrome is preferable to anaphylactoid purpura because purpura is neither uniformly present clinically nor the essential histologic feature of the exanthem. He assembles evidence to show that the Schönlein-Henoch syndrome, acute nephritis, rheumatic fever and polyarteritis nodosa together form a family of diseases. The pathogenesis common to this group is probably an antigen-antibody reaction, akin to that occurring in anaphylaxis and taking place especially in the endothelium of certain blood vessels. The commonest antigen is a derivative of the hemolytic streptococcus, although proteins derived from other organisms or from nonbacterial sources may also act. The blood vessels especially involved in the Schönlein-Henoch syndrome are the small vessels of the skin, intestine, synovia or glomeruli; in nephritis the glomerular capillaries, and in polyarteritis nodosa the medium-sized arteries and arterioles. In rheumatic fever the site of the reaction is less clear, but it is possible that here too the predominantly connective tissue damage is secondary to vascular lesions.

Transactions Royal Soc. Trop. Med. & Hyg., London

41:687-832 (May) 1948. **Partial Index**

Pathologic Processes in Malaria. B. Macgraith.—p. 687.
Liver Lesions in Malaria. W. H. H. Andrews.—p. 699.
Exoerythrocytic Parasites of Plasmodium Cynomolgi. H. E. Shortt and P. C. C. Garnham.—p. 705.
Bancroftian Filariasis: Biologic Mechanisms that Underlie Its Periodicity and Other of Its Clinical Manifestations. C. Lane.—p. 717.
Pre-Erythrocytic Development of Plasmodium Cynomolgi and Plasmodium Vivax. H. E. Shortt and P. C. C. Garnham.—p. 785.
Transmission of Kala-Azar to Australian Marsupials Trichosurus Vulpecula and Pseudocheirus Laniginosus. A. Bolliger and T. C. Backhouse.—p. 797.
Occurrence of Tick-Borne Typhus in West Africa. G. M. Findlay and G. T. L. Archer.—p. 815.
Human Dicroceliasis in Nigeria. P. J. L. Roche.—p. 819.

Acta Path. et Microbiol. Scand., Copenhagen

25:277-404 (No. 3) 1948. **Partial Index**

Capsular Antigens in Non-Hemolytic Streptococci Belonging to Lancefield Group D. K. Skadhauge.—p. 308.
*Immunization of Adults Against Diphtheria with Particular Reference to Dosage and Reactions. L. Scheibel, S. Tulinius, G. Rasch and others.—p. 319.
Preparation of Formalinized Aluminiumhydroxide Vaccine with Murine S. K. Poliomyelitis Strain (Jungeblut and Sanders). A. Frantzen.—p. 351.
Mice Immunization Tests with Various Poliomyelitis Vaccines and Serums. F. Kauffmann and A. Frantzen.—p. 356.
Studies in Gram-Negative Anaerobes. S. D. Henriksen.—p. 363.
Some Investigations into Penicillin Sensitivity of Human-Pathogenic Actinomycetes and Some Comments on Penicillin Treatment of Actinomycosis. P. Holm.—p. 376.

Immunization of Adults Against Diphtheria.—Scheibel and his associates point out that during the war the character of diphtheria changed in Denmark in that it not only became more virulent and had a higher mortality rate, but it also attacked proportionately more adults. It is assumed that the change in the ratio of the morbidity in adults to that in children is connected with the widespread immunization of children and the much lower incidence of immunization in adults. This explanation is further supported by the fact that almost all those who contracted diphtheria during the past few years either were not immunized or had not completed the immunization. The authors tried to learn: 1. Does immunization with four doses of 0.2 cc. give the same result as immunization with two doses of 1 cc., although the total antigen content is thereby reduced from 50 to 20 Lf units? 2. In cases in which it is necessary to employ a milder course, will it suffice by changing the intervals to give three injections of 0.2 cc. instead of four? 3. Can the usual routine dose be reduced from 1 cc. to 0.5 cc.? 4. Do the reactions decrease according to the size of the dose? On the basis of their observations the authors answer the first three questions in the affirmative. With regard to question 4 they found that severe reactions do diminish with decreasing doses, but this is only demonstrable in the group most likely to have reactions, and only when the dose is reduced to 0.2 cc. Accordingly, the ordinary routine method to be used hereafter by the authors will be twice 0.5 cc.—i. e., twice 12.5 Lf units—with a four week interval, and a year later another 0.5 cc. When smaller doses are indicated, three times 0.2 cc.—i. e., three times 5 Lf units—at two week intervals will be given, and a year later another 0.2 cc. The investigations suggest that the dose for mass immunization would eventually be diminished to twice 0.2 cc. followed a year later by a third injection of 0.2 cc.

Klinische Wochenschrift, Heidelberg

26:193-224 (April 1) 1948. **Partial Index**

Physical Factors Influencing Urinary Secretion. K. E. Rothschuh.—p. 195.
*Changes in Ovarian Function Induced by Thiouracil and Methylthiouracil. R. Kopf, A. Loeser and G. Meyer.—p. 202.
Edematic Disturbances and the Flocculation Test of Gros. E. Freund.—p. 206.
Practicability of Various Methods for Determination of Vitamin B1 Deficiency. W. Droese.—p. 210.
Etiology and Therapy of Intoxication by Methyl Alcohol. E. Keeser and J. Alberty.—p. 212.

Ovarian Disturbances After Thiouracil and Methylthiouracil.—Kopf and his co-workers found in experiments on rats that thiouracil and methylthiouracil cause changes in the maturation of the ovum which become manifest in the form of irregularities in the estrous cycle; estrus becomes less frequent. These experiments on animals are corroborated by observations on human subjects. Here, too, changes in the menstrual cycle develop under the influence of antithyroid substances. Menstruation has been known to become less frequent during treatment with methylthiouracil; cases have also been observed in which existing menstrual disturbances become regulated. This becomes understandable when it is recalled that transitions exist between stimulating and injurious effects of thyroid substances on the ovary. Menstrual anomalies seem to be elicited not by a definite thyroid disturbance but by the manner and degree of the changes produced in the ovary under the influence of the thyroid hormone. The authors believe that the changes in ovarian function which follow medication with the thiouracils are the result of the simultaneous existence of insufficiency and hyperfunction of the thyroid.

Nordisk Medicin, Stockholm

38:919-966 (May 7) 1948

Psychosomatic Problems. Review. J. C. Whitehorn.—p. 919.
*Psychology versus Anatomy in Gymnastic Treatment of Brachial Neuroses and Like. I. Movement, Emotion and Posture. II. Respiration, Emotion and Words. T. Braatøy.—p. 923.
*Urethane Treatment in Leukosis. One Year's Experience. P. B. Hansen.—p. 930.
Aortography. G. Runström.—p. 934.
Psychosomatic Diseases in Children. S. Gunnarson.—p. 937.

Psychology versus Anatomy in Gymnastic Treatment of Brachial Neuroses and the Like.—Braatøy says that myalgia from overwork occurs predominantly in the antigravity musculature, as seen in office workers who use typewriters and other equipment placed too high for them. Rest from work, massage of the painful muscles and simple relaxation gymnastics are the rational therapy in these cases. Almost identical symptoms may be observed in patients not under similar working conditions when the antigravity muscles are used to check or lock the emotional reaction, as is more readily recognized if the patients are examined in a recumbent position, when the antigravity muscles have no physiologic functon to perform. If by suitable technic the hypertension in the antigravity muscles is released emotional explosions will be released at the same time. The release of emotional outbursts in myalgias given gymnastic treatment is preceded or accompanied by respiratory release. When such tensions have been fixed for a long period of time they characterize the patient's attitude, gestures and utterances. Series of ailments can be seen which range from myalgias due to overwork through conditions of blocked-up emotions requiring respiratory and emotional release to chronic entangled neuroses calling for systematic psychoanalysis.

Urethane Treatment in Leukosis. One Year's Experience.—Definite but transient improvement was seen in 15 out of 23 patients, mostly with chronic lymphatic leukosis, after treatment with urethane. Half a year after treatment only 4 patients continued improved; 10 patients died during the first half-year. In evaluation of the results improvement in the general condition, disappearance of splenic and glandular enlargement and normalization of the blood picture must be considered, in the order named. The sedimentation reaction and as far as possible variations in basal metabolism are also followed. The treatment must be highly individualized. The effect of treatment with urethane in chronic leukosis, though like that following roentgen therapy, is as a rule of shorter duration and the by-effects are often more prominent. In suitable cases the treatment can be tried if for some reason roentgen treatment is not desirable, but the author has returned to roentgen therapy as the normal method after one year's test of treatment with urethane. In acute leukosis, in which roentgen treatment is most often contraindicated, treatment with urethane should be attempted if the patient is not too debilitated; transient improvement may result. In the terminal stages the effect of the two methods is about equally slight. There is every reason to continue the study of urethane and its problems. It is still in the experimental stage and only its relative harmlessness justifies its application in the clinic at this time.

38:967-1010 (May 14) 1948. **Partial Index**

*Vitamin D2 Therapy in Lupus Vulgaris. Review. O. Strandberg.—p. 967.
*Streptomycin Treatment of Infections of Urinary Tract. A. R. Frisk.—p. 976.
*Streptomycin Treatment: Classification of Reports on Cases Treated to Date in Sweden. G. Lindgren and Björn Sjögren.—p. 980.
Blood Sedimentation Reaction in Normal Men and Women from Statistical Viewpoint. G. Dahlberg.—p. 985.
Streptomycin Treatment in Alcaligenes Meningitis. H. Jelke.—p. 989.

Vitamin D_2 Therapy in Lupus Vulgaris.—Preliminary results of treatment according to Charpy in 26 patients with lupus of the mucous membrane are reported by Strandberg. In most cases the serum calcium was increased and in more than half the cases the weekly microscopic examination of the urine revealed red blood corpuscles, usually several times. Transient albuminuria appeared in one case; in another grave persistent nephropathy developed after four weeks' treatment with irradiated ergosterol preparation and has continued for over three months with constant albuminuria and increased

blood pressure. In 3 patients there was a peculiar eye disorder not previously described in the literature, marked by hypertrophy of the conjunctiva, with some sensitiveness to light and a feeling of foreign bodies in the eyes; the symptoms disappeared when irradiated ergosterol was discontinued. To date no improvement in the mucous membrane has been seen. Vitamin D_3 therapy does not seem to act on lupus of the mucous membrane as it does on lupus of the skin. Because of the necessary laboratory examinations, the troublesome diet and the risk involved, hospitalization is required during the treatment.

Streptomycin Treatment of Infections of Urinary Tract.—Frisk reports on 27 cases of chronic infection of the urinary tract due to bacteria susceptible to streptomycin and wholly or partly resistant to penicillin and sulfonamide drugs. Streptomycin was used, and in 20 cases treatment with alkali was given simultaneously. The results were good in 20 cases, transitory in 2 and poor in 5. With an alkali reaction in the urine the chance of successful therapy is enhanced and there seems to be less danger of the development of resistance to streptomycin. In 4 cases recurrence set in after one to three months; on repeated treatment the urine became sterile again in 2. In most cases in which the urine became sterile sterilization occurred within twenty-four hours, and in no case later than after seventy-two hours. Anatomic defects and injuries and mixed infections lessen the possibility of good results, but attempted treatment with streptomycin is considered justifiable in these cases. Of the 18 patients at present free from bacteria 13 have been observed for over three months. In 3 patients, only 1 of whom was treated with alkali, resistance to streptomycin developed during the treatment. The fastness seems to be definite. In 1 of the cases, followed for a year, resistance continues. In 2 instances grave vestibular disturbance occurred after six days' treatment, which has now lasted for three weeks and two and a half months, respectively.

Streptomycin Treatment: Classification of Reports on Patients Treated in Sweden.—Lindgren and Sjögren discuss 290 of the 350 cases in Sweden in which this treatment was used up to December 1947. The main indications for treatment were infections of the urinary tract due to bacteria susceptible to streptomycin and Pfeiffer's and tuberculous meningitis. The cases of infections of the urinary tract were mostly of long duration and refractory to other treatment; recovery followed in 68 per cent of the uncomplicated, 44 per cent of the complicated cases. In 10 of 29 cases of tuberculous meningitis the prognosis seems favorable. Eighteen of 22 patients with Pfeiffer's meningitis recovered. Total dosage of more than 15 Gm. gave better results than a lower dosage. When bacteria are demonstrable in the urine after seventy-two hours the prospect of overcoming the infection is slight. Complications of different kinds were seen in about one fourth of the cases. Vestibular complications occurred in 50 cases (17 per cent); their frequency increases with the dosage.

Presse Médicale, Paris

56:437-456 (June 23) 1948. **Partial Index**

*Thymectomy with Parathyroidectomy in Ankylotic Polyarthritis: Case Followed for 9 Years. R. Leriche.—p. 437.
Collapse of Pulmonary Cavities Associated with Miliary Infection, Bronchopneumonia and Tuberculous Infiltration in Course of Streptomycin Treatment. C. Mattel, M. Tristani, P. Balozet and others.—p. 438.
Clinical Investigation and Arteriography in Arteritis of Lower Limbs. L. Bazy, J. Huguier, H. Reboul and others.—p. 442.
Bronchial Obstruction in Newborn Child: Intra-Uterine Suffocation. L. Derobert.—p. 444.
Eosinophylic Granuloma of Skin. J. Guilhon, P. De Graciansky and A. Paraf.—p. 448.
Radiography of Volvulus of Sigmoid Flexure. C. Olivier.—p. 452.
Tomography of Aorta. Even, Lepennetier, Morin and others.—p. 454.

Thymectomy with Parathyroidectomy in Ankylotic Polyarthritis.—Leriche points out that if ankylosing arthritis involves only one joint, treatment by resection is possible, but if many joints are ankylosed, including those of the spine, only an operation that has a general systemic effect is justified, such as Oppel's parathyroidectomy. In 1928 Oppel reported that he had obtained improvement in 16 of 50 patients with ankylosing polyarthritis. Leriche performed Oppel's operation for the first time in 1928 and obtained spectacular success in a man who had been bedfast for a number of years. Since then the author has performed three or four parathyroidectomies for ankylosing polyarthritis every year. The majority of these patients have been followed for two or three years; in about half of them the improvement has proved lasting. The author also has had some failures, as have others who have employed this treatment. In 1936 the author combined parathyroidectomy with removal of a persisting thymus. Since then he has always searched for a persistent thymus in these patients and has found that the thymus frequently encloses one or two parathyroids. He reports the case of a man in whom thymectomy and parathyroidectomy was done in 1938 and who has been followed for nine years. The results were good. The author deplores that little attention has been given to his repeated reports on the favorable results of parathyroidectomy and thymectomy. He employs sympathectomy in cases of arthritis deformans.

56:457-468 (June 26) 1948

Experimental and Clinical Study on Choleretic Action of a New Derivative of Sulfur. R. Kourilsky, B. Halpern and J. Martin.—p. 457.
*Treatment of Scabies with DDT. G. Garnier.—p. 458.

Treatment of Scabies with DDT.—Garnier says that since 1945 he has treated hundreds of patients, including young children, with a 6 per cent solution of dichlorodiphenyltrichloroethane (DDT) in an ointment base which is adherent, colorless and odorless. There were no signs of intolerance or toxicity and the treatment failed in only about 2 per cent of the patients. These favorable results are in contrast with those obtained by American and British authors, who not only failed to observe therapeutic and prophylactic results in scabies, but also called attention to the danger of intoxication and irritation involved in the use of DDT for scabies. Garnier says that if such undesirable effects occur, it is because the solvent in which DDT was applied was acetone, which facilitates cutaneous absorption. Since DDT is effective on contact, absorption is useless and not desirable. In the morning, after a soapy bath, the entire body, except the head, is painted with a 6 per cent solution of DDT in phthalic ethers. A second coat is applied ten minutes later. The patient then puts on his clothes. On the following morning the patient is given another soapy bath and all the underwear as well as the bed linen is changed.

Revista Argentina de Cardiología, Buenos Aires

15:1-36 (Jan.-Feb.) 1948

*Action of Precordial Anesthesia on Pain and Electrocardiographic Changes of Angina Pectoris. L. Del Zar and J. Bronstein.—p. 17.
*Thiouracil in Therapy of Angina Pectoris and of Cardiac Insufficiency. B. Moia and J. Bronstein.—p. 25.

Precordial Anesthesia in Angina Pectoris.—Del Zar and Bronstein studied the effect of subcutaneous procaine infiltration of the precordial region on pain and the electrocardiographic changes caused by exertion in 22 patients with angina pectoris due to coronary sclerosis. There was exertion before and again five minutes after anesthesia. All patients had been given a clinical and an electrocardiographic diagnosis. Exertion elicited appearance of anginal pain in 10 cases, in 7 of which pain was either controlled or attenuated by procaine infiltration. In 1 case pain was elicited by effort after procaine infiltration anesthesia and not before it. Exertion produced changes of pathologic type in the electrocardiograms of 18 patients. Anesthesia failed to prevent or even to improve the electrocardiographic changes even in the cases in which pain was attenuated or suppressed by it. The authors conclude that subcutaneous procaine infiltration anesthesia of the precordial region either favorably modifies or controls anginal pain caused by exertion. However, it does not modify the changes in the electrocardiograms caused by exertion. These results suggest the value of precordial procaine infiltration as symptomatic therapy of anginal pain.

Thiouracil Therapy in Angina Pectoris and Cardiac Insufficiency.—Moia and Bronstein review the literature and give the results of their own observations. They observed a case of diffuse edema which appeared on administration of a thiouracil derivative and disappeared on discontinuation of the drug, frequent failure of the drug in angina pectoris and in cardiac insufficiency and sudden death after improvement in a

patient with angina pectoris and aortic stenosis. They conclude that thiouracil should not be used in routine therapy for either angina pectoris or cardiac insufficiency. The drug is of value in selected cases, especially when the basal metabolism is initially high. Its administration should be discontinued if clinical improvement is either moderate or transient. Retention of water in cardiac insufficiency is a contraindication because of the danger of acute edema of the lung.

Schweizerische medizinische Wochenschrift, Basel

78:605-628 (June 26) 1948. **Partial Index**

*Streptomycin Used for 18 Months in a Tuberculosis Sanatorium: Results in 170 Cases. E. Mordasini.—p. 605.
Two Injuries Caused by Sports. J. Heer.—p. 612.
Examination of Uncovered Slides with Cell Smears by Means of Dry Systems: Microscopic Technic. H. Scholer.—p. 613.
Action of Coagulation Promoting Phospholipoids and Calcium Chloride on Heparin During Coagulation of Blood and Plasma in Vitro. F. W. Kahnt.—p. 614.

Streptomycin in Tuberculosis Sanatorium. — Mordasini says that at two tuberculosis sanatoriums in Davos 170 tuberculous patients have been treated with streptomycin. Streptomycin is definitely indicated in the presence of acute hematogenic dissemination and in tuberculous meningitis. Such cases are generally seen and treated in hospitals, not in sanatoriums, but even for physicians on staffs of sanatoriums streptomycin is a valuable addition to the therapeutic armamentarium. The use of streptomycin has changed little in the established methods of sanatorium cure and in collapse therapy. The greatest value of streptomycin therapy is in making it possible to operate on many patients who otherwise could not be subjected to collapse therapy. The knowledge that there is a therapeutic weapon which is of great help in bronchogenic and hematogenic dissemination, particularly during surgical interventions either on the lungs or other organs, such as the kidneys, gives the physician a greater feeling of security and more freedom of action.

78:629-652 (July 3) 1948. **Partial Index**

*Diagnosis and Treatment of Arteriovenous Aneurysm in Area of Hemispheres of Cerebrum. G. Weber.—p. 629.
*Etiology of Myeloid Leukemia from Point of View of Diaplacental Transmission. Kucharick.—p. 634.
Erosion of Eyes Caused by Calcium Spray. G. Papayannopoulos. —p. 635.

Arteriovenous Aneurysms in Cerebral Hemispheres.—Weber reports 15 cases of cerebral arteriovenous aneurysm in 10 men and 5 women treated at the neurosurgical clinic in Zurich. Symptoms of the disturbance were manifested at an early age, in 14 of the patients between the eighth and the twenty-eighth year. One patient only was 36 years old when first clinical symptoms were manifest. Four patients had epileptiform attacks only. Four patients had recurrent subarachnoid hemorrhages with or without hemiparetic symptoms. Six patients had epileptiform convulsions as well as recurrent subarachnoid hemorrhages. One patient, a girl aged 9, had monthly migraine with nausea, vomiting and a slowly progressing left hemiparesis. Four of the 15 patients complained spontaneously about an intracranial bruit, and a sound synchronous with the pulse was heard on auscultation of the head. Encephelography was performed in 11 patients, in 5 of whom the ventricular system extended toward the area of the vascular tumor; a displacement of one of the ventricles was demonstrated in 1 patient. In the remaining 5 patients the observations were doubtful. Diagnosis can be established by cerebral arteriography in the absence of aneurysmal bruit, enlargement of the heart and hemilateral exophthalmos. Treatment consisted of ligation of the internal carotid artery in 12 patients, in 10 of whom it was combined with roentgen irradiation. Roentgen irradiation alone was done in 1 patient and extirpation of the tumor in 1. In the majority of cases ligation of the internal carotid artery combined with roentgen irradiation may be considered the method of choice, while surgical removal of the tumor is indicated only in a few cases with particularly favourable location of the aneurysm.

Etiology of Myeloid Leukemia.—Kucharick reports 1 case of myeloid leukemia in a woman aged 37 who died seventeen days after the delivery of a full term infant girl whose weight was about 1,900 Gm. (4 pounds). The baby was emaciated but was normal from the hematologic point of view. It was concluded that either the placenta or the organism of the newborn had resisted the development of the disease, independently of whether one considers virus or neoplasm as the etiologic factor in leukemia. The author's case and similar cases in the literature clarify the problem of leukopoiesis so far as they suggest that any part played by the humoral leukopoietic substance may be excluded with regard to the pathogenesis of myeloid leukemia.

Semaine des Hôpitaux de Paris

24:1511-1532 (June 22) 1948

Biologic Introduction to Study of Agents Analogous to Yperite (Substances Called Nitrogen or Sulfur Mustard). L. Justin-Besançon, S. Lamotte-Barrillon and C. Polonovski.—p. 1511.
*Critical Study of Clinical Results Obtained at Time of Treatment of Forty Patients with Malignant Hemopathies by Administration of Nitrogen Mustard. L. Justin-Besançon, S. Lamotte-Barrillon and C. Polonovski.—p. 1518.
First Results of Biologic Research Obtained in Course of Therapeutic Study of Derivatives of Yperite. L. Justin-Besançon, S. Lamotte-Barrillon and C. Polonovski.—p. 1529.

Nitrogen Mustard for Treatment of Malignant Hemopathies. — Justin-Besançon and his co-workers treated 40 patients, 25 men and 15 women between the ages of 9 and 70 years, who had malignant hemopathies, with nitrogen mustard. Methyl-bis (β-chloroethyl) amine was administered by the intravenous route, a solution of 6 mg. of nitrogen mustard in 6 cc. of isotonic sodium chloride solution being used. One-tenth milligram per kilogram of body weight was injected daily in a single dose in the morning or in two fractional doses at twelve hour intervals. Smaller doses were employed in tired persons or children. The total dose of one course of treatment had never exceeded an average of 24 mg. per 60 Kg. of body weight. A second course of treatment at an interval of six to eight weeks was instituted in 5 patients with recurrences. The results demonstrated that nitrogen mustard can be considered a palliative only. There were important changes in the blood picture which differed from one patient to another. Repeated examination of the blood in the course of the treatment is required because of the risk of a toxic effect of the nitrogen mustard on the hemopoietic system. The leukocyte count decreased constantly for a week, and in rare cases for three weeks, to 2,000 to 3,000 in the absence of clinical symptoms. It then increased progressively within two or three weeks. The behavior of the red blood corpuscles was less uniform. In a number of cases the red cells showed a decrease parallel to that of the leukocytes. The anemia which was present before the initiation of the treatment subsided, suggesting that the bone marrow which was liberated from its pathologic elements was again able to assure normal erythropoiesis. Nitrogen mustard therapy should not be instituted earlier than at least two months after roentgen treatment has been terminated. Nineteen of the patients treated with nitrogen mustard had Hodgkin's disease. It is here that this agent is indicated, particularly in cases of roentgen-resistant disease, except for those in the terminal stage of the disease.

Semana Médica, Buenos Aires

55:1053-1094 (June 24) 1948. **Partial Index**

*Streptomycin in Tuberculous Meningitis. D. L. Gallo.—p. 1057.

Streptomycin in Tuberculous Meningitis.—Gallo reports 2 girls aged 16 and 26 years, respectively, with tuberculous meningitis. Streptomycin was given by intraspinal and intramucular injections. The younger patient received a total dose of 68 Gm. intrathecally and 78 Gm. intramuscularly. Clinical cure was attained which has persisted more than one year after discontinuation of treatment with streptomycin. There are no pulmonary lesions. The older patient received a total dose of 64 Gm. intramuscularly and 3 Gm. intrathecally. Definite improvement followed, which lasted for three months after discontinuation of streptomycin therapy. Acute symptoms including symptoms of involvement of the central nervous system appeared suddenly and terminated fatally. Necropsy revealed acute cerebral lesions. The author concludes that streptomycin is the only hope of cure for patients with tuberculous meningitis, the prognosis of which was fatal before discovery of streptomycin and is now slightly but favorably modified.

Book Notices

The Differential Diagnosis of Jaundice. By Leon Schiff, Ph.D., M.D., Associate Professor of Medicine, Department of Internal Medicine, University of Cincinnati Medical School, Cincinnati. Cloth. Price, $5.50. Pp. 313, with 39 illustrations. The Year Book Publishers, Inc., 304 S. Dearborn St., Chicago 4, 1946.

In this book, a discussion of the characteristics and classification of jaundice is followed by a presentation of the different diseases in which icterus occurs. Finally, an analysis is given of the clinical and laboratory aids helpful in the differential diagnosis of jaundice and also a detailed practical description for the performance of the commonly used hepatic tests. The latter includes a well illustrated and complete treatise on liver biopsy, one of the first in this country. The organization of the material is clear, and desired information is quickly found. The literature available at the time of the appearance of the book is thoroughly reviewed; nevertheless, the book makes for easy and interesting reading. In treating a subject such as the pathogenesis and diagnosis of jaundice, it cannot be avoided that some of the opinions given will be refuted by more recent experiences. The book clearly shows the great clinical experience and astuteness of the author and also good judgment in separating the important from less significant data. The book can be highly recommended for the practitioner because of its practical presentation and for the investigator because of the well chosen and rather complete references. It is one of the best expositions of this complicated and often discussed subject.

Medical Disorders of the Locomotor System Including the Rheumatic Diseases. By Ernest Fletcher, M.A., M.D., M.R.C.P., Physician to the Arthritis Clinic, Royal Free Hospital, London. Cloth. Price, $11. Pp. 625, with 263 illustrations. Williams & Wilkins Company, Mount Royal and Guilford Aves, Baltimore 2, 1947.

This volume is almost entirely concerned with problems in the field of arthritis and other rheumatic disorders, although there are included chapters on "peripheral vascular disorders," one on "medical diseases of bone" and a chapter on "the foot." Also included are appendixes detailing data on solutions used for injections in and about joints, manipulations, epidural injections, serial plasters, optimum positions for ankylosis, technic for injections into joints and muscles, muscle-nerve testing and certain normal blood values. A major part of the volume was written by Fletcher, but several contributions of chapters on special subjects were prepared by other British writers.

The book is difficult to review, as the quality of material is exceedingly variable. Some is exceptionally good; for example, a chapter on applied anatomy of the locomotor system by G. A. G. Mitchell. A chapter on incidence and prevalence of rheumatism by Lewis-Faning reviews statistics for England and Wales but fails to mention important American and Scandinavian studies of recent years. The chapter on the treatment of rheumatoid arthritis is fragmentary and poorly balanced. Serious consideration is given to remedies long discarded as useless, including calcium iodoxybenzoate, neostigmine, colloidal sulfur, bee venom, sodium glycerophosphate. All are mentioned by the writer as having value. A section on gold therapy is included, but this is far from complete.

The subject of physical therapy in the treatment of rheumatoid arthritis is disposed of in 17 lines. Vaccine therapy for rheumatoid arthritis is given 20 lines; exercises are disposed of in a page and a half. High potency vitamin D therapy is given 2 pages without inclusion of the author's personal opinion of the value of this therapy. Treatment of Still's disease is completed in a paragraph of 6 lines.

A section on the treatment of osteoarthritis includes no mention of the use of physical therapy, although bizarre methods of therapy such as the injection of fat into joints and injections of lactic acid are treated seriously and without critical appraisal by the author. A chapter by Copeman on the subject of fibrositis presents the problem from an orthodox point of view but fails to tell the reader how this disease is to be recognized and how it may be distinguished from other forms of chronic rheumatism such as rheumatoid arthritis and osteoarthritis. The section on treatment of ankylosing spondylitis includes recommendations which, in this country at least, seem little short of amazing. The author suggests that treatment be conducted along "sanatorium lines and [that patients be] nursed on open air balconies." Opportunities to care for these cases in sanatoriums and on open air balconies are certainly not frequent in America where, excepting for unusually severe cases, most patients with spondylitis go about their business and carry on at fairly strenuous occupations while receiving treatment. The writer recommends, for spondylitis, "dairy products; plenty of first class protein . . . added vitamins are useful. . . ." In this manner the author often achieves an antique flavor in his writing but the result must be disappointing to the reader searching for a reasonable program for the treatment of these patients.

In his preface the author stresses the difficulties of preparing this volume and indicates his belief that he may have made many errors in its preparation. This suspicion appears to be justified after sober study of the book. In its present form it is not recommended as a practical reference work in this field.

Introduction to Health Education. By Jackson R. Sharman, Ph.D., Professor and Head of Department of Health Education and Physical Education, University of Alabama, Tuscaloosa. Cloth. Pp. 273. A. S. Barnes & Co., 67 W. 44th St., New York 18, 1948.

This volume is directed to school teachers, perhaps the most important group from which health education can be expected to come. The author points out that satisfactory progress in improvement of national health can come only if adequate health education is made available to children in the receptive years, before wrong ideas have been inculcated by haphazard, informal "education" on health. Sharman has made a significant contribution by providing excellent orientation for teachers and in giving specific methods for incorporation of health education into school curriculums. Due attention is given to the numerous points of contact with health education that are observed in every school or classroom operation. The author's style is conducive to easy reading. A helpful feature is a summary, a list of questions and a reference list after each chapter. This book can provide important impetus to rapid progress of health education in schools. It is recommended to teachers who are coming to grips for the first time with how to introduce health education. It is equally valuable for teachers already in this field, because of the compactness and completeness with which it reviews the subject.

Modern Trends in Ophthalmology. Volume II. Edited by Arnold Sorsby. Second edition. Cloth. Price, $12.50. Pp. 600, with 169 illustrations. Paul B. Hoeber, Inc., 49 E. 33rd. St., New York 16, 1947.

Volume I was published in 1940 in an attempt to fill the gap between the systematized knowledge found in textbooks and the ferment found in the periodic literature. In advance of one and lagging behind the other, its ill defined position shows considerable local color, so that even in the modern world there are tangible distinctions between the teaching and practice of different countries and different clinics. Contributors have been sought in three continents, and the various contributions deal, not with textbook material, but with the as yet unsystematized knowledge that is emerging from clinics, laboratories and the periodic literature. The contents of the book emphasize neither that which is already established, nor that which is as yet unformed, but indicate the emergent tendencies and formative influences. An attempt has been made to fill the many gaps in the preceding volume and to indicate the considerable developments that have occurred during the past seven years. The bibliographies are selective and are intended to serve as guides to the literature and not as exhaustive lists of references.

Section one on physiology contains 10 chapters of which two articles on electrophysiology of the retina and senescence of the eye contain considerable new knowledge not found in textbooks.

Section two contains 4 chapters on diagnostic procedures, devoted mostly to slit lamp and gonioscopic studies.

Section three, with 16 chapters on pathology, introduces some excellent material on virus affections, retinal vein changes and visual disturbances in glaucoma.

The fourth section, on treatment, contains interesting subject matter on sulfonamide and penicillin therapy, contact lens,

trends in cataract surgery and the handling of burns with amniotic membrane grafts.

Section five consists of four articles on social aspects, pertaining especially to aviation medicine and the care of the blind in England and Wales.

The subject matter is written for the mature practicing ophthalmologist and will be found to be worth while reading, especially for those not conversant with the present literature.

Protomorphology: The Principles of Cell Auto-Regulation. By Royal Lee and William A. Hanson. With an appended article on "Cytotoxines," by Prof. K. R. Victorov. Cloth. Price, $8.50. Pp. 365, with 9 illustrations. Lee Foundation for Nutritional Research, 2023 W. Wisconsin Ave., Milwaukee 3, 1947.

In the author's words: "We shall review evidence which has led us to suggest the hypothesis that the genes contain an organized assemblage of smaller units which are the determinants of individual cell morphology. For these units we propose the name 'cytomorphogen.' . . . We propose that a cytomorphogen is composed in part of still simpler and quite stable units composed principally of minerals which are the determinants for the specificity of the biologic proteins. For these basic determinants we propose the name 'protomorphogen.' We define a protomorphogen as a comparatively stable but complex group of molecules, linked together by the chemical affinities of mineral matter, which by reason of its physical and chemical structure determines the exact plan or pattern by which the component parts of a specific protein are combined."

This mineral "'skeleton' of the complicated protein molecule" is supposed to retain its structural integrity and specificity after ashing of tissue at 300 C. and resolution to give a 10 per cent saline solution of the resulting ash. This saline solution on injection intravenously into the species of animal from which it is derived may result in shock and death in five seconds to two minutes. The hypothetic mineral protomorphogen solution is postulated to serve "as a framework upon which organic components are assembled into an antigenically active foreign protein. The serologic reaction therefore is against this protein and not directly against the ash itself."

The contradiction between these hypotheses and elementary and well established facts of chemistry on the one hand and of immunology on the other hardly need be pointed out to the informed reader. To follow their further discussion and elaboration would not serve a useful purpose. The authors have read widely, but uncritically, and the considerable body of information derivable from the literature cited seems to have undergone serious distortion through being forcibly related to the basic hypotheses as frame of reference. The reviewer fails to find justification for the book or for the experimental pursuit of the specific hypotheses proposed therein.

Index of Diagnosis (Clinical and Radiological) for the Canine and Feline Surgeon. By Hamilton Kirk, M.R.C.V.S. Third edition. Cloth. Price, $10. Pp. 600, with 321 illustrations. William Wood & Co., Mt. Royal & Guilford Ave., Baltimore 2, 1947.

The author is official veterinary surgeon to the Clayton Greyhound Stadium. His experience, that of Dr. Gerry B. Schnelle of the Angell Memorial Hospital in Boston and of others have been drawn on to help make the first two editions of the "Index of Diagnosis" popular with small animal practitioners.

The third edition of "The Index of Diagnosis" is improved by deletion of many references to treatment that appeared in the first two editions. Several new articles have been added, including Schlatter's disease, pneumothorax, epulis, pathologic fractures, osteogenesis imperfecta, kyphosis, lordosis, pigmentation, hernia, hydrops amnii, dental decay, extrauterine pregnancy, sunstroke, heatstroke and bone tumors. A number of new drugs have been added to the extended section on poisoning. The attempt to differentiate between Stuttgart disease and black tongue is still not convincing.

It is proper that the major advances in the medical sciences should be aimed at the alleviation of suffering of human beings. Most of those advances are based on work done on experimental animals, including the dog and cat. It would seem a simple task to utilize the advances gained for medicine through use of the dog and cat for the benefit of those animals. Actually the task is not simple, and whereas the dog and cat have benefited greatly from work done with them for the benefit of human beings, much of the information gained through work on the dog and cat is not realized for the benefit of those animals.

It is gratifying to note the several references to the work done on animals in medical laboratories. The most potent answer to antivivisection "forces" is the relief of suffering to dogs and cats that has been contributed by research work in medical laboratories. Indeed, the lack of reference to other important work is the chief criticism of the book. The Habel mouse test for rabies is not mentioned. The information on the prostate gland is outdated. The information on vomiting is erroneous. The author overlooked all the evidence, beginning with Magendie in 1813, that vomiting is purely a reflex phenomenon. And for species differences in vomiting he might look more fruitfully to the cardiac end of the stomach rather than the pyloric. Fox or "Fox encephalitis of dogs" is not mentioned as a disease entity.

This book is a valuable addition to the library of any veterinarian or research worker who works with dogs and/or cats.

The Skull, Sinuses and Mastoids: A Handbook of Roentgen Diagnosis. By Barton R. Young, M.D., Professor of Radiology, Temple University Medical School, Philadelphia. Cloth. Price, $6.50. Pp. 328, with 141 plates. Year Book Publishers, Inc., 304 S. Dearborn St., Chicago 4, 1948.

This book present a brief but complete outline and discussion of roentgen diagnosis of the head. The arrangement of the material is somewhat unusual; on one page is presented a discussion of a particular subject, and on the opposite page is a clear reproduction of a roentgenogram, fully indexed, illustrating the points discussed. The subject of roentgenography of the head appears to be well covered.

This handbook should serve as an excellent reference book for roentgenologists and those doing only a limited amount of diagnostic work on the head. It should find a place on the shelf of every physician who attempts a diagnosis of lesions of the skull, sinuses and intracranial contents.

The reproductions are of good quality and readily understood. The concise manner of presentation and the brevity of the text recommend it.

Thromboendangiitis obliterans des Gehirns: Neurologisch-psychiatrische Syndrome. Von F. Llavero. Cloth. Price, 24 Swiss francs. Pp. 248, with 15 illustrations. Grune & Stratton, Inc., 381 Fourth Ave., New York 16; Benno Schwabe & Co., Klosterberg 27, Basel 10, 1948.

In general thromboangiitis obliterans has been considered as a disease of the extremities. Only in recent years has it been appreciated that a similar disease process may affect the cerebral vascular system. Even now this fact is not commonly recognized. This monograph is devoted to a detailed presentation and clarification of this problem. Its more important sections deal with the pathologic anatomy and the etiology; the presentation of a series of 14 cases and the analysis of the clinical picture; a discussion of the accessory diagnostic methods such as encephalography, arteriography and capillary microscopy; the examination of the fundus oculi and the spinal fluid; the differential diagnosis; the prognosis and treatment. There is an extensive bibliography, but no index.

Neutron Effects on Animals. By the Staff of the Biochemical Research Foundation. Dr. Ellice McDonald, Director, Newark, Delaware. Cloth. Price, $3. Pp. 198, with illustrations. Williams & Wilkins Co., Mt. Royal & Guilford Aves, Baltimore 2, 1947.

The staff of the Biochemical Research Foundation have recorded, in a series of articles written by various members, the results of eight years' work concerning the effects of neutron bombardment in animals. This work was done with a cyclotron built especially for biologic research and under the direction of Dr. Ellice McDonald, director of the foundation. Certain projects included in this study were done at the request of the Manhattan District. In general, the various papers present the details of changes in cellular activities following neutron bombardment. The usual laboratory animals and the accepted criteria of radiation effect were utilized. The material is presented in a clear and concise manner and should be of value to those interested in the effects of neutron bombardment.

Queries and Minor Notes

THE ANSWERS HERE PUBLISHED HAVE BEEN PREPARED BY COMPETENT AUTHORITIES. THEY DO NOT, HOWEVER, REPRESENT THE OPINIONS OF ANY OFFICIAL BODIES UNLESS SPECIFICALLY STATED IN THE REPLY. ANONYMOUS COMMUNICATIONS AND QUERIES ON POSTAL CARDS WILL NOT BE NOTICED. EVERY LETTER MUST CONTAIN THE WRITER'S NAME AND ADDRESS, BUT THESE WILL BE OMITTED ON REQUEST.

DIET IN ULCERATIVE COLITIS

To the Editor:—**Please send the list of the dietary treatment in ulcerative colitis in the early stages. What is the present opinion of the effect of tobacco and alcohol on the condition? Is medicinal therapy indicated in these stages, and if so, what dosages of the drugs are indicated?**

Matthew A. Mroz, M.D., DeLand, Fla.

ANSWER.—The following dietary program has served well. The activity of the disease will determine the phase of the diet on which a patient is placed.

Approximate composition of this diet (actually a variation of 10 per cent in the composition of the diet is assumed):

	Unit.	Foundation Diet	Full Diet
Carbohydrates	Gm.	195	270
Protein	Gm.	85	145
Fat	Gm.	125	215
Calories	....	2,240	3,600
Calcium	Mg.	470	1,940
Iron	Mg.	11	17
Vitamin A	I.U.	4,300	7,800
Thiamine	Mg.	1.4	2.5
Riboflavin	Mg.	1.5	4.0
Nicotinic acid	Mg.	14	18
Ascorbic acid	Mg.	35	105

The initial or foundation diet is served to patients with chronic ulcerative colitis. At the outset of a well ordered program, it is a diet low in residue. Additions of food are made as tolerated so as to increase the calories and protein as quickly as possible. One additional food as well as increased size of servings is given each day unless otherwise ordered by the physician. Protein concentrates may be used or nonfat milk solids may be added to fruit juices or milk as suggested here. In general the use of tobacco and alcohol is contraindicated in patients with active ulcerative colitis. The question of medicinal therapy is difficult to answer because new drugs are constantly coming into use. Among the sulfonamide compounds the most satisfactory ones have been phthalylsulfathiazole, 15 to 22½ grains (1 to 1.53 Gm.) every three hours, or azosulfamide ("neoprontosil"), 10 to 15 grains (0.6 to 1 Gm.) every three hours. These drugs can be given for approximately two weeks at a time for the average patient, and after a rest of a week or so they may be resumed for a similar period of two weeks. Innumerable other drugs are being used, and these will be found in current publications.

HEART BLOCK

To the Editor:—**A patient with heart block has heart beats thirty-six to forty-two times per minute, and shortening of breath. The attack came on rather suddenly and has not required oxygen. Please advise treatment.**

W. H. Bollinger, M.D., Charleston, Ark.

ANSWER.—It is important to make a differential diagnosis of the cause of the auriculoventricular block since treatment of certain underlying conditions may greatly benefit the heart block, and also important to ascertain whether the block is complete or incomplete. On the assumption that the heart block is complete because of the slow ventricular rate, ordinarily no treatment is necessary. If there are untoward symptoms due to the slow ventricular rate, therapy aimed at accelerating the rate may benefit the patient. Thus ephedrine sulfate, ¼ to ½ grain (15 to 30 mg.) three to six times daily, or "paredrine hydrobromide" (1-[para-hydroxyphenyl]-2-aminopropane hydrobromide), 20 to 40 mg. three times a day, may be given. This is especially true if Adams-Stokes attacks occur. In such instances epinephrine in oil, 1 cc. once or twice daily, may be most useful.

The dyspnea present in this patient may be due to congestive heart failure. If the heart block is complete, full digitalization may be accomplished, since the block cannot be made worse. The dyspnea may be alleviated and the heart block may even disappear on the return to a state of compensation.

"AGENIZED" FLOUR

To the Editor:—**I recently read an article on the use of nitrogen trichloride ("agene" gas) in the milling and bleaching of white flour. The inference was that consumption of bread made from this flour is injurious to human beings. Any information in regard to this subject would be appreciated.**

M.D., Canada.

ANSWER.—"Agenized" flour is a product which is produced by exposing the flour to nitrogen trichloride gas ("agene"). "Agene" was widely used in the United States for improving the baking quality of flour until recently.

In 1946, Mellanby in England reported the production of "canine hysteria" (running fits) by feeding dogs flour treated with nitrogen trichloride ("agene") and proved that the toxic element was developed in the process by the action of the nitrogen trichloride on the wheat protein. American investigators have confirmed his findings.

In all these studies the level of "agenized" flour necessary to produce a reaction in dogs is substantially higher than the level of flour which would be used in an ordinary human diet.

Dr. Elvehjem reported that experiments on 12 human beings have revealed no symptoms or encephalographic changes after eating "agenized" flour or "agenized" gluten in amounts which would unfailingly produce hysteria in dogs (J. A. M. A. **135:** 760-763, 1947).

The Food and Nutrition Board of the National Research Council stated that it feels that the use of "agene" in treating flour should be abandoned in the shortest time which is economically feasible. A more complete discussion can be found in the Nov. 22, 1947 issue of THE JOURNAL.

HOOKWORM

To the Editor:—**In rural North Carolina I have seen a number of cases of young adults and children with symptoms of acute appendicitis and a history of previous similar attacks. Examination usually reveals decided tenderness over the appendix, but no rebound, rigidity or fever, a normal temperature, secondary anemia and a stool loaded with hookworm ova. I have treated these cases of hookworm conservatively. So far my results have been good. Is a diagnosis of appendicitis due to hookworm correct here? Am I justified in treating these cases conservatively? How much danger is there of rupturing the appendix with the saline purgative which follows the use of tetrachloroethylene, assuming my diagnosis is correct?**

M.D., North Carolina.

ANSWER.—You are quite right in considering appendicitis in your differential diagnosis; however, the adult worms inhabit the small intestine and especially the middle portion, where they feed on the mucous membrane. It is generally considered that about 100 worms are necessary to produce symptoms in an average person. The predominant complaints are lassitude, fatigue, anorexia, distention and anemia. The finding of ova in the stool is definite evidence of clinical disease. Against the diagnosis of acute appendicitis is the absence of rebound pain and the presence of a normal temperature, slight or no leukocytosis, with eosinophilia in the neighborhood of 20 to 40 per cent.

The only parasites which may be found in the terminal part of the ileum and in the appendix are the whipworm (Trichuris trichiura) and the pinworm (Enterobius vermicularis), and, although they may rarely cause a fulminating type of appendicitis, they usually are associated with a more chronic form known as "wriggling appendix."

The danger of rupture of the appendix with saline purgative is virtually nil.

HYPERTENSION AND ALTITUDE

To the Editor:—**Is it considered inadvisable for a person with hypertension to spend a vacation at high altitude?**

M.D., New York.

ANSWER.—The advisability of residence at high altitudes for patients with arterial hypertension is conditioned by several variables: (1) the severity of the hypertension, including the extent of permanent arteriolarsclerotic change; (2) the age of the patient; (3) the hemoglobin content of the blood; (4) the elevation of the area; (5) the amount of physical activity to be indulged in, and (6) the rapidity of ascent. In general, it may be said that it is unwise for the hypertensive person to go to altitudes in excess of 6,000 feet if he is not accumstomed to such levels and intends to be physically active. Anoxemia is exaggerated greatly by even relatively minor degrees of anemia, and thus myocardial histanoxia is a potential hazard. Each problem should be evaluated individually; generalizations are misleading, especially when so many variables affect the prognosis.

DRUGS AND STERILITY

To the Editor:—I am treating a veteran who suffered from seizures following gunshot wounds in the head. The patient has a tantalum plate in the skull. Before beginning of treatment he suffered frequent epileptiform seizures. He was put on diphenylhydantoin sodium and trimethadione, and soon these seizures stopped. He has had no seizures for many months. For about a year he has been kept on two 1½ grain (0.1 Gm.) capsules of diphenylhydantoin sodium and one 5 grain (0.3 Gm.) capsule of trimethadione, which keeps him seizure free. He and his wife are in the middle twenties, have been married about three years and desire a child. He was examined by an eminent urologist, who told him that while his seminal fluid contained live and active spermatozoa, they were deficient in numbers. He was told to ask me whether the continued taking of diphenylhydantoin sodium or trimethadione would interfere with the production of the spermatozoa. I was unable to answer this question. What influence has continual medication with diphenylhydantoin sodium or trimethadione on the production of the spermatozoa?

James Watson, M.D., Lakewood, Ohio.

ANSWER.—According to the literature no clinical investigations have been done concerning the effect of diphenylhydantoin sodium or trimethadione on spermatogenesis. It would be well to get another seminal fluid analysis with an accurate count of the spermatozoa in the seminal fluid. It is definitely known that certain drugs, especially sex hormones, do interfere with the production of spermatozoa when used over a long period of time.

PSYCHOGENIC IMPOTENCY

To the Editor:—A man aged 43 complains of impotency lasting about ten years. He was married six years ago hoping to improve. He performs vulvar intercourse with orgasm but his wife is still virgin. The urologist says that he has no genital abnormalities, and treatment has failed with several hormones. The genitals are rather small. Psychoneurotic symptoms and neurologic abnormalities are absent. The patient has a stormy genital history, including unilateral orchitis and ulcer. He had a traumatic penile lesion in childhood and gonorrhea following the first intercourse. He had a strict moral education and has strong feeling of guilt. Before the present condition he avoided sexual activities for several months for religious reasons, and he did have a transient episode of impotence. He shows no other personality difficulties. Please suggest probable cause and most satisfactory approach to this case.

Vandick Ponte, M.D., Fortaleza-Ceará, Brazil.

ANSWER.—It would appear from the history that this patient's sexual troubles are on a psychogenic basis, especially since the urologist that examined him can find no evidence of genital abnormalities. On the other hand, if he has bilateral testicular atrophy, it could be that his symptoms are due to a deficiency of male sex hormone. If such is the case then intramuscular injection of testosterone propionate three times a week might be indicated. This treatment might be tried for six weeks to see whether the patient derives any benefit. If not, it should be discontinued, and the patient examined by a good psychiatrist. His wife should consult a gynecologist and have her hymen incised.

VITAMIN D DOSAGE

To the Editor:—Is 5 mg. of vitamin D excessive for patients past middle life? This seems to be about the contents of the tablets of mixed vitamins for patients who are on a restricted diet for maintenance.

M.D., Maine.

ANSWER.—Five milligrams (about 200,000 U. S. P. units) of vitamin D is an excessive dose for any patient except perhaps in very special circumstances. For adults the optimal amount of vitamin D, if a need exists, remains to be determined. For adults who have no opportunity for exposure to clear sunshine and for elderly persons, the ingestion of small amounts of vitamin D may be desirable. The normal requirement probably does not exceed 400 U. S. P. units of vitamin D daily and may be less.

LIVER EXTRACT IN CIRRHOSIS

To the Editor:—What is the usual duration of intravenous treatment with liver extract in hepatic cirrhosis? How long should it be continued after the patient's condition seems to have remained unimproved?

G. Bruce Lemmon Jr., M.D., Springfield, Mo.

ANSWER.—The only large experience with the intravenous use of liver extract in the treatment of cirrhosis has been recorded by investigators from the Rockefeller Institute (Labby, D. H.; Shank, R. E.; Kunkel, H. G., and Hoagland, C. L.: Intravenous Therapy of Cirrhosis of the Liver. J. A. M. A. **133**:1181-1190 [April 19] 1947). They found that the material used increased appetite and the intake of food, produced changes indicating improvement in various tests of hepatic function and caused a disappearance of ascites in 12 of 21 cases, with reduction in the rate of formation of ascites in 7 more cases in the same group. Even more impressive are their figures for survival; 77 per cent of the group of patients studied have survived for two years or more. Labby and his co-workers pointed out that at least a six months' trial of therapy is required to evaluate the effects of this type of treatment in so chronic and well established a disease as cirrhosis. They also have cited a case in which slight improvement was noted at the end of five months of treatment but in which formation of ascites did not cease until after thirteen additional months of treatment. It would appear from their figures that at least six months' treatment is essential for a fair trial and that under certain circumstances it may profitably be continued for a much longer period of time.

CONGENITAL DEFECT OF HAND

To the Editor:—A newborn son has a congenital defect of the right hand consisting of a webbing between the first three fingers. The webbing is palm thick at the base of the fingers and narrows down to a membrane at the proxmial interphalangeal joints. The two distal phalanges of these three fingers are about half normal size. The entire hand is somewhat smaller than the left one. My questions are these: 1. When had I best attempt surgical treatment? 2. Could I increase the size of the right hand by assiduous applications of heat over a period of years?

C. S. Dorsey, M.D., Kingston, W. Va.

ANSWER.—1. Generally speaking, reconstructive operations on congenital defects of the type described ordinarily are carried out somewhere between the ages of 5 and 8 years. The problem, however, must be individualized, and occasionally earlier operation might be indicated, although the procedures are usually executed with greater ease when the hand is more fully developed.

2. It is highly improbable that application of heat or any other local therapy would be of any benefit.

BACTERIOSTATIC OILS

To the Editor:—Are there any food-preserving qualities in such condiments as mustard, horseradish, and various types of peppers?

Duncan C. McKeever, M.D., Houston, Tex.

ANSWER.—The volatile oils found in various condiments or spices do possess bacteriostatic properties. The resistance of micro-organisms to the action of spices varies with the organism and with the spice. The decreasing order of the germicidal activity of the spice components is reported as follows: allyl isothiocyanate (mustard, horseradish) and carvacrol (caraway seeds) (equal); cinnamicaldehyde and cinnamyl acetate (cinnamon) (equal); eugenol (cinnamon, clovcs); eugenol methyl ether (cinnamon, cloves), and eucalyptol (*Chem. Abstr.* **38**:4638 [Sept. 10] 1944).

The chemical constituents of pepper oils are still little known (Osol, A., and Farrar, G. E.: United States Dispensatory, ed. 24, Philadelphia, J. B. Lippincott Co., 1947) and no statements as to their bacteriostatic properties can be found, although it is quite possible that they do possess such bacteriostatic properties. No instances are known where spices are relied on as the sole preservative of foods.

SILICA HAZARD

To the Editor:—In the brewing industry, diatomaceous earth or kieselguhr is used as a filtering medium. Is there any occupational hazard in handling the powder?

M.D., Massachusetts.

ANSWER:—The content of silica in diatomaceous earth is in excess of 80 per cent. The greater portion of this content represents free silica, the source of silicosis. Much of diatomaceous earth is of fine particle size and within the range capable of entry into the lungs. Provided sufficient concentration and over long periods of time, silicosis from diatomaceous earth is a possibility. On a practical basis the brewery situation, as to silicosis, depends on the regularity of exposure, the concentration and the duration in years. Intermittent operation such as involving only a few minutes and in such intervals as three or four times weekly will introduce no prospect of silicosis. Exposed workers, even on irregular work, should be provided respirators. If the operation be continual, dust counts should be carried out to determine concentration level.

VENOUS BLOOD CELL COUNT

To the Editor:—Is it satisfactory to use venous blood for the determination of red cell count, white cell count and hemoglobin? I should like to use the same blood for chemical studies and for these tests if satisfactory.

M.D., New York.

ANSWER.—Use of venous blood for red cell count, white cell count and hemoglobin determination is perfectly valid.